

1937



CITY AND COUNTY OF BRISTOL

HEALTH COMMITTEE

PORT HEALTH SUB-COMMITTEE

MATERNITY AND CHILD WELFARE SUB-COMMITTEE

EDUCATION COMMITTEE

HOUSING COMMITTEE

MENTAL DEFICIENCY ACTS COMMITTEE

JOINT CO-ORDINATION OF MEDICAL SERVICES
SUB-COMMITTEE

Principal Medical Officer :

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

Town Clerk :

Josiah Green, Esq.

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„ R. N. Harrison*†

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„ F. A. Webber, J.P.,
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* Also member of Port Health sub-committee.

† „ Maternity and Child Welfare sub-committee.

‡ „ Joint Co-ordination of Medical Services sub-committee.

§ „ Education (Medical Services) sub-committee.

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„ F. J. Burgess

„ R. C. Davies

„ Mrs. A. A. Nunn

„ W. S. Scull

„ W. T. Wright

Co-opted Members—

W. Andrews, Esq.

Mrs. A. E. M. Hampton

Mrs. V. E. Pullin

PUBLIC HEALTH STAFF.

Medical Officer of Health (City, Port and Schools) :

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

Deputy Medical Officer of Health :

I. G. Davies, M.B., M.R.C.P. (Lond.), D.P.H.

Principal Medical Assistants :

Assistant Medical Officer of Health :

Llywelyn Roberts, M.D., D.P.H. (to 30/11/37).

F. W. Bunting, M.B., Ch.B., D.P.H. (from 1/1/38).

Maternity and Child Welfare :

Marguerite G. Hughes, M.B., Ch.B.

School Medical Service :

A. A. Dalby, M.C., M.R.C.S., L.R.C.P.

Chest Specialist :

C. J. C. Faill, F.R.C.P.Ed.

Venereal Disease :

S. H. Kingston, M.B., Ch.B., D.P.H.*

Bacteriology :

J. D. A. Gray, M.B., Ch.B., B.Sc., F.R.C.P.E., D.P.H.

Clinical Pathology :

Doris M. Stone, M.D., D.P.H.

Ham Green Hospital and Sanatorium :

B. A. I. Peters, B.A., M.D., B.C., D.P.H.

Southmead General Hospital :

P. Phillips, M.Sc., M.D., Ch.B.

Frenchay Park Sanatorium :

Constance I. Ham, M.B., Ch.B., F.R.C.S.

Babies' Home :

Greta Hartley, M.D., M.M.

Other Principal Assistants :

Public Analyst :

F. E. Needs, F.I.C.

Chief Sanitary Inspector :

J. A. Robinson, F.S.I.A.

Principal Nursing Sister :

Miss L. Elkins

Veterinary Surgeon :

G. E. Henson, M.R.C.V.S.*

Administrative Assistant :

J. G. Watson.

* part-time appointment

The following divisions and sections comprise the department controlled by the medical officer of health as principal officer of the medical services of the city and port of Bristol :—Epidemiology ; maternity and child welfare ; tuberculosis ; venereal disease ; school medical service ; preventive medicine, including pathological and bacteriological laboratories and the chemical laboratory ; port sanitary service ; municipal hospital service including Southmead general hospital, Ham Green isolation hospital and sanatorium, Frenchay Park sanatorium and orthopaedic hospital, Babies home, Downend ; mental deficiency ; vaccination ; district medical officers ; sanitation and housing inspection ; food inspection ; Shops Acts administration ; ambulance and disinfection service.

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CITY AND COUNTY OF BRISTOL.

ANNUAL REPORT, 1937.

My Lord Mayor, Ladies and Gentlemen,

I have the honour to submit my report on the state of the public health and sanitary circumstances of the city for the year 1937, the fifty-second of the series of annual reports, prepared in accordance with the statutory obligation in article 17 (5) of the Sanitary Officers (Outside London) Regulations 1935, on the general lines suggested by the Ministry of Health ; together with hospital reports.

For convenience, all reports relating to the public health services in Bristol are published in this volume, including the general report referred to above and reports from the department of preventive medicine and the public analyst, reports to the port sanitary authority and on the school medical service to the education authority, and the report of the Mental Deficiency Acts Committee.

This introduction is intended to serve as a general commentary on the main features of the year 1937 and to draw attention to problems and difficulties which still await solution. In the body of the report the various health services are dealt with in more detail in their appropriate sections.

Statistics (p. 10).

The *birth rate* has risen again to 14·46 per 1,000 population and is 0·22 per 1,000 higher than in 1936. This compares very favourably with the low record of 13·66 per 1,000 in 1933.

The *death rate* is considerably lower than in 1936—(11·44 as compared with 12·27). Decline in the number of deaths from many diseases, including cancer, heart disease and measles accounted for this fall. The adjusted death rate compares very favourably with the national figure, being 1·2 per 1,000 lower.

The *infant mortality rate* was 46 per 1,000 births, being 2 per 1,000 lower than last year. A new-born baby has a better chance of surviving in Bristol than in almost any large town in the country.

The *maternal mortality rate* (3·85) is 0·74 above the national figure—deaths from puerperal sepsis being 0·34 above the national figure. The still-birth rate is also far too high in our city.

In 1937, state midwifery service was introduced into the city. During 1938, it is hoped to reorganise all the ante-natal clinics in

the city, making the large hospitals responsible for consultative work only. The municipal clinics would undertake the education and routine supervision of expectant women.

These two factors, it is sincerely hoped, will affect the maternal mortality and stillbirth rates in Bristol.

Health centres (p. 24).

During 1937, three new health centres were erected by the City Council; a main Central Health Clinic and two branch centres. Although these centres have only been open for a few months, it is made very clear by the people how much they appreciate hygienic modern buildings properly equipped. The work of the department, however, cannot be carried on with new buildings alone. The present shortage of staff must be remedied in the near future if the work is to be carried out properly. There are approximately eight thousand weekly attendances at our new health centres for all purposes.

Hospital development (p. 29).

In 1937, additional wards of the small cubicle type were added at Ham Green Hospital. This brings the capacity of the fever section up to 337 beds. They have been invaluable to the city during recent months.

Building also commenced at Southmead Hospital and it is hoped that during 1938, 100 maternity beds and accommodation for 90 nurses will have been completed.

Community centre (p. 33).

The first community centre in Bristol was opened during the early months of 1938 on the Filwood Park estate. Here accommodation has been provided for the people living on the estate to meet in various social activities. Of course for many years the local authority has been supplying many of the essential elements of community centres, but owing to lack of co-operation between various committees, these have been entirely independently built. An immense advantage to all citizens would be gained if all public buildings for an area—such as health centres, libraries and baths—were placed together with a few spare rooms for meetings. How convenient such arrangements would be to the public and what a fine community centre! Further, it would be a great economy in administration to the local authority. This aspect of the problem is now receiving careful consideration.

Air raid precautions (p. 39).

It is appreciated that although much additional work devolves on the health department as a result of air raid precautions, such precautions are of great public health importance. One is convinced that to-day every citizen should be qualified in first aid. It is of immense value to the housewife, to the young person on the sports field and to the man going backwards and forwards to his work. It is intended to organise a division of the St. John Ambulance in the health department.

Cemeteries (p. 68).

In 1938, 156 acres will be allocated for the burial of the dead. People have not yet learnt to appreciate cremation in spite of its public health value. A modern crematorium exists in the city.

Housing (p. 72).

At the end of 1937 there were 15,739 people living in dwellings which were *overcrowded*. During the year only 311 cases were relieved of overcrowding but 289 new cases occurred.

The original scheme for *slum clearance* submitted and approved in 1933 was for the demolition of 2,900 houses. By the end of 1937, orders had been made in respect of 3,463 houses. This involved a population of 15,494 removed from the slums under the slum clearance scheme (14,167 in areas and 1,327 under demolition orders).

During the year under review, in areas and demolition orders 1,037 houses were represented, involving a population of nearly 4,000 people. This work has involved a limited staff in a considerable amount of work—about 4,000 houses have had to be visited and inspected in detail.

Milk (p. 77).

The amount of milk consumed in the city has increased by about 30 per cent. This is due, to a great extent, to the fact that there is an increase in the quantity of milk consumed in schools and in various works in the city. About 80 per cent. of the milk supplied in Bristol at present is pasteurised. The raw milk consumed is still a great danger to the public health and it is hoped that the city council will, at an early date, take steps to prevent its sale in the city for human consumption.

It will be seen that 616 samples of milk were taken for examination for the presence of tubercle bacilli and of these 27 were found to have live tubercle germs in the milk. These samples involved 17 producers. In spite of our precautions it took from three to six months before we were able to free the milk of infection; during the whole of this time it was being consumed in the city.

It is noted also that five per cent. of the samples contained evidence of infection with the germ that causes undulant fever, a much dreaded disease at the present time—this germ is also killed when the milk is properly pasteurised.

Ice-cream.

For several years I have tried to arouse enthusiasm with regard to the standard of ice-cream produced in the city. Mr. Needs' remarks show quite clearly that under present conditions ice-cream may be anything whereas in actual fact it could, as in America, be as useful as well as a pleasant, food. In his report upon the cleanliness of this stuff Dr. Gray shows the danger of ice-cream to health—for example, six samples out of 50 taken showed the presence of dangerous germs and to-day in Bristol we do not realise the danger to health caused by the sale of the commodity at present known as ice-cream.

Infectious diseases (p. 91).

Diphtheria was again less prevalent last year, there being only 315 cases in the city compared with 1,484 in 1930. I have no hesitation in expressing my opinion that immunisation is playing an important part in checking the spread of this disease. It is to be regretted that more parents do not take advantage of these facilities for immunisation. That it has a preventive value is clearly seen from the figures, for an immunised child appears to have at least a 30-times better chance of escaping the disease than a non-immunised child. The fatality of diphtheria in the city has also fallen, there being only eight deaths making a fatality rate of 2·5 per cent. in spite of the fact that there was a higher percentage (19 per cent.) of severe cases.

We have exhausted our supply of convalescent measles serum and hope to issue an appeal to doctors and patients so that we may have some in store for emergencies.

Tuberculosis (p. 101).

During the year this section of the work of the health department was reorganised. The department is now called the "chest diseases diagnosis department." The conception behind this is that general practitioners will make full use of our chest specialists in the diagnosis of chest diseases. For this purpose also the X-ray department in the Central Health Clinic is at the disposal of all general practitioners for X-ray of doubtful chest conditions whether or not the patient is examined by the chest specialist.

We sincerely hope that the result of this will be early diagnosis of pulmonary tuberculosis with a resulting fall in the death rate from this disease.

Of non-pulmonary tuberculosis there were 14 more cases during 1937 than in 1936.

Cancer (p. 115).

An interesting account of the work of the joint radiological department of the voluntary hospitals under Dr. F. G. Bergin as director, is included.

City hospitals, sanatoria and institutions (p. 135).

Attention is directed to the reports made by the medical superintendents of the various municipal institutions. *Dr. Peters* in his report (p. 135) refers particularly to the lack of support given to research work and advocates the allocation by local authorities of money for this purpose. Certainly at Ham Green Hospital the research work carried out by Dr. Peters and his colleagues has brought greater benefits, even the saving of life, to his patients.

Dr. Phillips (p. 148) shows that more cases than ever have been treated at Southmead Hospital (4,767 compared with 4,363 in 1936) including a large increase in the number of acute cases. This is indicated by the increase in the number resident in hospital under four weeks (3,539 compared with 3,148 in 1936).

There can be no doubt that the work of the residential nurseries established by the Council at the Downend Babies Home and the Brunswick Square Night Nursery is of great value to public health. *Dr. Greta Hartley* gives an account of the work carried on at Downend (p. 160).

The medical problems in the Eastville and Stapleton institutions, which are administered by the Public Assistance Committee, are dealt with by the Superintendents, *Dr. Roberts* and *Dr. Datta*, in brief reports (p. 163).

Preventive medicine department (p. 178).

Reports by *Dr. Gray* and *Dr. Stone* upon the bacteriology and clinical pathology work of their respective sections are again included. It is most gratifying to note that greater use is being made of the department by general practitioners and by municipal hospitals.

It would be useless to argue that laboratories such as these should not be established until there was a demand for them. In preventive medicine the means must first be established and its justification will follow—that is amply proved by the valuable service rendered by the department to the doctors in Bristol. The assistance given by this department in the control of pasteurisation, is most useful.

REPORT OF THE PUBLIC ANALYST.

Mr. Needs gives an account of the work done by this department in his report which deals not only with the administration of the ever-increasing number of Acts of Parliament and Regulations (which now comprise about seventeen), allied to public health, but also with the requirements of the various committees in respect of analytical control.

He points out “this is the third complete year since the Corporation and the University pooled their resources in an effort to evolve an efficient and up-to-date public health service embodying chemical, bacteriological and pathological work. There can be no doubt that the co-operation between these three branches of the preventive medicine department has not only obviated overlapping, but has yielded results with considerable advantage to the City. The facilities for the examination of the material of alleged food poisoning cases and of biological specimens are enhanced by this co-operation.

The number of samples submitted under the Food and Drugs Act per 1,000 of population is maintained at a figure slightly greater than four, which is greater than that for the whole of England and Wales, and is a reasonable figure for all large cities.

The adulteration rate for the food and drugs samples was 3·85 per cent., which is the lowest figure for thirty years, with the exception of one year, when it was 3·72 per cent. in 1923. Although this adulteration rate for Bristol may have been somewhat reduced by the collection of a larger number of samples (these having increased by about 14 per cent), yet the significance of this low figure cannot be denied. I think we are justified in saying that the

public conscience has attained a higher standard, so that at the present time we are spared many of the grosser forms of fraud with which earlier generations had perforce to cope.

Some very interesting investigations were commenced during the year under review, including the examination of the morning and evening milk of an individual cow for many consecutive days with special reference to the freezing point. Also several samples taken under the Pharmacy and Poisons Act resulted in many weeks of intensive research work before the answer to the apparently simple question "Is this a poison under the Act"? could be given.

The examination of samples of food for metallic contamination has entailed a very large amount of work. The extreme delicacy of the tests is such that we now know that hardly any food-stuff is absolutely free from traces of some metal.

Work relating to the Gas Regulation Act, the examination of water from numerous wells in the surrounding neighbourhood, and the investigation of the pollution of the atmosphere has helped to make the year a very busy one."

HEALTH OF THE PORT.

The work of the department proceeded smoothly along well defined lines, chief of which consists of strict and constant supervision over ships arriving and during their stay here. This work, while unobtrusive in character, is nevertheless of the utmost importance since the port is a possible gateway for the entrance of dangerous infectious disease to the country. The port of Bristol with its increasing world-wide trade is in direct communication with countries where these dangerous diseases are prevalent.

In addition, Bristol is an important discharging port for food-stuffs which are distributed to all parts of the country. This necessitates careful examination by skilled inspectors.

For the efficient carrying out of these duties, there is the closest possible co-operation between the port health department, Ham Green Hospital and the preventive medicine laboratories at Canynge Hall, and an example of this co-ordination is given on page 247. The department is also in communication with other ports of the United Kingdom in an interchange of information regarding the health of ships.

During the year under review, 1,102 ships arrived at Bristol ports from "foreign" and 7,131 from coastwise, making a total from "foreign" and coastwise of 8,233. Of these ships, 59 were from ports known to have been infected by plague. Your medical officers visited 245 ships altogether and in nearly all these examined the crews. The port sanitary inspectors boarded 2,313 ships.

The number of cases of sickness landed from vessels arriving at the port was 101, in addition 29 cases of infectious and other sickness were reported to have occurred on vessels during the voyage, but had been disposed of prior to arrival.

There was no case or suspected case of yellow fever, smallpox or typhus on board these vessels. Six cases were removed from ships to the isolation hospital for observation or treatment, and eight cases to Southmead Hospital for treatment of other than infectious diseases.

On page 247 reference is made to a case of typhus fever which occurred in relation to the port.

The medical inspectors of aliens inspected 134 aliens and subjected sixty of these to detailed examination. No certificates of physical incapacitation were issued during the year.

The detection of rodent plague is one of the most important duties of the port health authority. All ships from infected or suspicious ports were examined thoroughly for rat indications and wherever possible samples of rats were obtained for pathological examination for plague. In all 289 rats from ships were examined during the year. For the purpose of sampling the rat population in the vicinity of the quays, 507 rats were examined pathologically giving a total of 796 examined during the year.

The Port Sanitary Regulations 1933 and other measures in relation to the deratisation of ships have been the means of reducing to a remarkable extent rat infestation of ships. This is shewn by the figures in the table on page 240. The numbers of rats found on ships have fallen consistently since 1933.

The work is not altogether an easy task since the provisions of the regulations must be carried out with as little interference with the movements of shipping as possible, but with the helpful co-operation of owners and agents no serious difficulties have arisen.

SCHOOL MEDICAL SERVICE.

Orthoptic treatment (p. 263).

By arrangement with the Bristol Eye Hospital an orthoptic clinic for the treatment of squint was opened in April under the supervision of Mr. R. R. Garden, who reports upon the work carried out. The clinic is equipped and the orthoptist provided by the Bristol Eye Hospital, school children attending on four half-day sessions weekly.

Eye Clinics (p. 263).

One result of the nurses' survey work in the schools has been the ascertainment of a large number of children with minor eye defects which would not otherwise have come to the notice of the school medical service. The number of cases dealt with was 3,911 as compared with 2,785 cases in 1936.

Dental Clinics (p. 266).

The number of children actually treated (14,963) shows an increase as compared with the previous year (13,327). Three additional dental surgeons to be appointed will, it is hoped, secure

the examination of each school child every year, and the provision of the required treatment. The difficulty of persuading parents in regard to conservative treatment is referred to in the report of Mr. W. H. B. Stride, supervisory dentist.

Heart disease and rheumatism (p. 270).

The number of new cases found to be suffering from rheumatic heart disease during the year was 107. It is pleasing to report that by the opening of two new open-air wards at the Winford Orthopaedic Hospital, the accommodation for the treatment of these cases has increased from 68 to 110, thus providing increased facilities for the hospital treatment of cases of rheumatic heart disease. Professor C. Bruce Perry refers to this in his report.

Child Guidance Clinic (p. 272).

Three hundred and forty children were dealt with at this clinic and the director, Dr. R. F. Barbour, reports that 105 cases were referred for attention by parents, doctors and social agencies. This shows that the opportunity offered to them of referring their cases direct to the clinic has been appreciated.

Physical instruction (p. 279).

The progress made in regard to the provision of facilities for all branches of physical education is discussed in the report of Mr. J. M. Milne, chief organiser of physical training.

Provision of meals (p. 283).

A considerable increase in the free dinners and milk meals has occurred. A new two-course dietary was introduced in September, the effect of which will be carefully observed.

The medical examinations in connection with the granting of free milk and/or meals were 10,358 as compared with 6,049 in 1936.

Milk in Schools (p. 283).

There are still 19,000 elementary school children in Bristol who are not having the benefit of the "milk in schools" scheme. This is very regrettable. The chief education officer has circularised the teachers to remind them of the scheme and to ask them for their co-operation.

An interesting investigation into contamination of natural straws was undertaken by the Department of Preventive Medicine. As a result of this inquiry, the Education Committee decided that in future only artificial straws, properly sterilised, should be used in the schools and these should be stored in small boxes in schools.

Co-operation of parents (p. 285).

The interest of parents in regard to the medical examination of their children at school is evidenced by the fact that 77·02% attended the inspections of the usual groups of children. In the case of the "entrants" group the percentage was 90·16.

Nursery schools and classes (p. 292).

Considerable progress has been made in regard to school provision for children under five years of age. As pointed out in my report for 1936, as the result of a survey by the health visitors, there were found to be over 5,000 such children for whom provision was required. Following the report to the Medical Services Committee, 20 nursery classes with accommodation for 780 children have been established. Further nursery classes and proposals in regard to 2 nursery schools are in hand at the moment.

Nutrition (p. 298).

A special investigation was undertaken by Dr. Roberts, and Dr. Stone (Hon. Clinical Pathologist at the Department of Preventive Medicine). The conclusion reached by the investigators in their own words was : " What appears to be the most important cause of malnutrition? We feel that we can unhesitatingly say that it is the economic state of the family. Where the income is low, it is difficult to provide enough food or obtain satisfactory houses. The mother is engaged in an unequal struggle, and her health often fails under the strain, or she ceases to care.

It must be remembered that the effects of these conditions on the child may last throughout its life, and some of the traits may be passed on to the next generation."

Without doubt, in malnutrition we are up against poverty and the only way of solving the problem is to do away with the cause.

Co-operation between the various medical services (p. 255).

The joint sub-committee for the co-ordination of medical services, composed of representatives of the Health, Education and Public Assistance Committees has met during the year and considered questions affecting the various Committees. Following the policy of the Council, as initiated by this joint committee, three health centres were opened during the year and at the present time are in full occupation :—

Central Health Clinic, Tower Hill, 9th July ;

Bedminster Health Centre, Wedmore Vale, 6th May ;

Speedwell Health Centre, Whitefield Road, 27th September.

PERSONNEL.

During the year two officers who had won the esteem and confidence of all with whom their duties brought them in contact, retired from the service of the Corporation. I refer to Mr. C. W. M. Vincent who retired in August after an association with the department for 34 years including 11 years as Chief Clerk, and to Mr. E. H. Scorrer, Senior Port Sanitary Inspector at Avonmouth, who retired in May after 21 years' service.

On behalf of the department, I desire to express my appreciation of the services rendered by them with the earnest wish that they may be rewarded by many years of happy retirement.

Medical literature.

Contributions to medical and allied literature concerning clinical and other material obtained while in the Corporation service, made by members of the staff since my last report was published, will be found on p. 132.

Finally, I wish to express my indebtedness for the courtesy at all times extended to me by the chairmen and members of the committees with whom my work is associated.

My best thanks are also due to the principal officers of the Corporation for their ever ready assistance and to the staffs working under my direction for their loyal and enthusiastic co-operation which has greatly facilitated the development of the service.

I am, my Lord Mayor, Ladies and Gentlemen,

Your obedient servant,

R. H. PARRY,

June, 1938.

1937

REPORT
OF THE
MEDICAL OFFICER OF HEALTH

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

Public Health Committee

1.—NATURAL AND SOCIAL CONDITIONS

AND

VITAL STATISTICS.

A.—Natural and social conditions.

Industries — unemployment — population — housing—rates levied—expenditure on public health.

B.—Vital statistics.

Marriages — live births — stillbirths — deaths —accidents— comparative statistics — mortality tables.

Note (1). Unless otherwise stated, all figures relating to vital statistics in this report are compiled from local returns.

(2). The vital statistics furnished by the Registrar General for Bristol for 1937 together with annual summaries since 1923 and quinquennium figures from 1881/1885 to 1931/1935 are printed in the appendix to this report together with comparative rates for England and Wales for births, deaths, infant mortality and maternal mortality.

A.—NATURAL AND SOCIAL CONDITIONS.

1936	Extracts for the Year.	1937
24,381	Land acreage	24,381
1,528	Tidal water acreage	1,528
413,900	Population — mid-year estimate	415,100
100,720	Inhabited houses	102,853
1,876	Void houses	2,190
£3,245,837	Rateable value inclusive of Government property	£3,331,637
£22,859	Penny rate yield (approx.) ...	£23,687
£12,900		£13,350
£164,432	Outdoor relief	£143,054
3,993	Cases relieved week ended 26th June	3,605
4,077	" " 25th Dec.	4,005
7,417	Persons relieved week ended 26th June	6,318
7,556	" " 25th Dec.	7,290
12,199	Highest Recorded No. of wholly unemployed men...	10,404
2,690*	" " women	1,325
965	" " boys	686
1,057	" " girls...	713
1,201	Parks and open spaces (acres)	1,205
12	Public baths and washhouses	14
169	Public conveniences ...	172
66	Public bowling greens-rinks	70
47	Public tennis courts ...	43
6	Public putting greens ...	6
1	Public golf courses	1
55	Public drinking fountains ...	55

*Big increase due to Royal Agricultural Show, for employment at which women not normally in industrial employment registered at the exchange.

Bristol is situated partly in Gloucestershire and partly in Somerset, the river Avon which flows through it being the dividing line. Its linear dimensions are approximately 10 miles by $7\frac{1}{2}$ miles.

The city is built on a number of eminences ranging from 200 to 300 feet above ordnance datum, its highest elevation being on the eastern boundary (370 feet) ; lowest, the old city which lies at the confluence of the rivers Avon and Frome (30 feet above ordnance datum).

Bristol is the principal industrial centre for south and south-west England with a large municipal dock undertaking as one of its most important enterprises. It has its own dormitory districts as well as a residential suburb—Clifton—which is regarded as an inland watering place. Its chief *industries* are tobacco, cocoa and chocolate, leather and boots, chemicals, clothing, soap, earthenware, galvanized iron, spelter, paper bags, aeroplanes, cycles, engines, paints, oils and ropes. Over 300 distinct industries are established in some 2,205 factories and workshops. Occupation statistics derived from the 1931 census were published in detail in 1934.

The manager of the employment exchange, in kindly furnishing the peak statistics for 1937 (see above) for the city area which includes a portion of the Kingswood Exchange, states that—

“A year ago a comparison with the previous twelve months revealed a marked increase in the amount of employment available

in the city. During 1937 there has been a considerable further improvement in the position, and Bristol can congratulate itself on the fact that it now has more people in employment than in any previous year. It is gratifying to note that during the last few years the rate of improvement in Bristol has been appreciably greater than in the country as a whole.

The number of unemployed persons registered at the local employment exchanges has been substantially reduced during the past twelve months, a fact which will be noted by comparison of the 1937 figures with those of a year ago.

The improvement in local industry during 1937 has been most marked in the engineering and building trades. In the tobacco and printing trades the improvement noted during 1936 was well maintained, and in most of the other main industries the employment position has been encouraging.

Reviewing local industrial activities generally during the past year, it can safely be stated that Bristol has enjoyed its full share of the national trade revival, and there is justification for hoping that the New Year will not only see the position of 1937 maintained, but that increased prosperity will be recorded."

The *population* of the city, as estimated by the Registrar-General at mid-1937 is 415,100, an increase of 1,200 on the figure supplied for mid-1936. This is the mid-year's estimate of population for the area as constituted since the extension of the boundaries on 1st April, 1935.

In recent years there has been great activity in the matter of *housing*. Since 1919, when there was an estimated shortage of 5,000 houses, over 34,000 houses have been erected, 13,000 by the Corporation and 21,000 by private enterprise, and 106 slum areas have been cleared. Housing estates, artizan dwellings, and two groups of three-storey flats and four of four storeys have been developed, providing 238 flats in all.

The rates levied for the year ended 31st March, 1937 were 11/- in the £ except in districts affected by the Somerset Review Order 1933 where there is a differential rating of 2/6 in the £, and in districts affected by the Gloucester Review Order 1935 where there is a differential rating of 1/8 in the £. Of this sum expenditure on public health services (1/7·9d.) was made up as follows :—

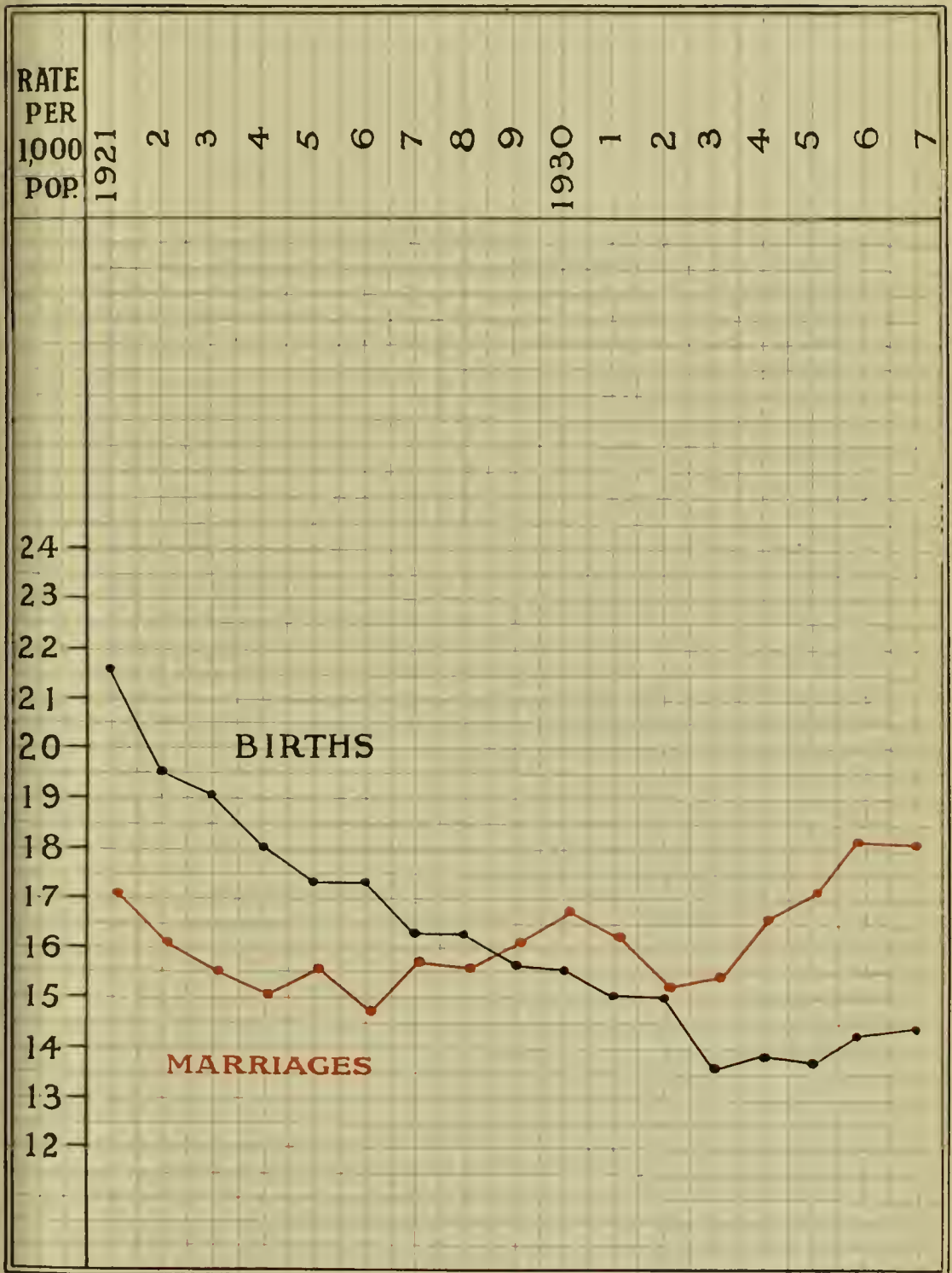
Hospitals, sanatoria, etc. :

(a) for tuberculosis	4·2d.
(b) „ for venereal disease	0·5d.
(c) „ infectious disease	1·9d.
(d) „ general hospitals	1·6d.
Maternity and child welfare	2·6d.
Port sanitary service	0·1d.
Blind Persons Act	0·8d.
School medical service including pro- vision of meals	2·5d.
Care of mental defectives	3·3d.
Other health services	2·4d.

Bristol is amongst the lowest rated of all the ports and industrial centres of the United Kingdom.

MARRIAGE AND BIRTH RATES

1921-1937



B.—VITAL STATISTICS.

1936	Extracts for the Year.	1937
14·24	BIRTH RATE per 1,000 population	14·46
13·82	do. legitimate	14·00
0·42	do. illegitimate	0·46
12·27	DEATH RATE (Crude)	11·44
12·02	do. (Adjusted)	11·21
1·97	Natural increase	3·02
48·3	†INFANT MORTALITY per 1,000 livebirths—	45·83
46·6	Legitimate	45·61
102·8	Illegitimate	52·36
26·6	†NEO-NATAL MORTALITY per 1,000 livebirths ...	29·11
37·5	STILLBIRTH RATE per 1,000 TOTAL births ...	38·15
0·55	STILLBIRTH RATE per 1,000 population ...	0·57
3·10	†MATERNAL MORTALITY per 1,000 TOTAL births	3·85
1·46	Puerperal sepsis	1·28
1·64	Other puerperal causes	2·57
0·25	ZYMOTIC DEATH RATE per 1,000 population ...	0·09
18·4	MARRIAGE RATE per 1,000 population ...	18·22
5,896	*LIVEBIRTHS :	6,001
2,946	Legitimate males	2,982
2,775	Legitimate females	2,828
97	Illegitimate males	108
78	Illegitimate females	83
230	*STILLBIRTHS—	238
130	Legitimate males	116
94	Legitimate females	108
5	Illegitimate males	6
1	Illegitimate females	8
5,080	DEATHS—	4,751
40·5	Percentage occurring in public institutions ...	41·7
7	Maternal deaths from sepsis	8
12	Maternal deaths from other causes	16
38	Deaths from measles (all ages)	2
18	Deaths from whooping cough (all ages) ...	15
30	Deaths from diarrhoea (under 2 years of age)	11

* Figures supplied by Registrar General,

† For observations see Part III,

Marriages.

Rate per 1,000 population.

	Bristol.	England and Wales.
1937	18·2	17·4
1936	18·4	17·3

During the year, 3,781 marriages took place within the city and county of Bristol, compared with 3,805 in 1936. This number gives a *marriage rate* of 18·2 per 1,000 population, a decrease of 0·2 compared with last year.

The superintendent registrar states that these marriages were solemnized as follows :—

Church of England	...	2,251
By authorised persons	...	221
Before registrars	...	1,305
Quaker meeting houses	...	4

The provisional marriage rate for England and Wales (17·4) was the same as that for 1936, and with the exception of the high rates recorded in 1915, 1919 and 1920, which were the direct result of war conditions, was the highest rate since 1873.

Live births.*

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
1937	14·46	14·9	14·9
1936	14·24	14·8	14·9

The live births of children of residents of Bristol in 1937 (whether born inside or outside the city) numbered 6,001 compared with 5,896 in the previous year, and comprised 3,090 males and 2,911 females, of whom 108 males and 83 females were illegitimate. This number gives a *live birth rate* of 14·46 per 1,000 population.

In considering this rate it is observed that :—

- (1) it represents a marked improvement on the rates recorded during the previous four years.
- (2) it is 0·8 above the low record of 1933 (13·66).
- (3) it is 0·22 above the rate for 1936 (14·24).
- (4) the rise in the local rate (0·22) is more striking than the rise in the national birth rate (0·1).
- (5) the rate has exceeded the mean birth rate for 1931/1935—14·3—but is still much below the mean for 1926/1930—16·3.

The *natural increase* of population (i.e., 1,250 more births than deaths) is 3·02 per 1,000, an increase of 1·05 on 1936 (1·97).

Illegitimate live births (191) were 16 more than last year and represent 3·18 per cent. of the total. The *illegitimate birth rate* was 0·46 per 1,000 population compared with 0·42 last year.

Stillbirths.*

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
1937	0·57	0·60	0·67
1936	0·55	0·61	0·67

The stillbirths to Bristol residents in 1936 (whether born inside or outside the city) numbered 238—eight more than last year, and consist of 122 males and 116 females, of whom six males and eight females were illegitimate. This figure gives a stillbirth rate of 0·57 per 1,000 population, 0·02 more than in 1936. However, compared with the rate in 1928—0·66—the present rate is satisfactory. Moreover, it is lower than the national rate and the combined rate for county boroughs.

Illegitimate stillbirths (14) represent 5·9 per cent. of the total. The illegitimate stillbirth rate was 0·03 per 1,000 population compared with 0·01 last year.

The wastage of possible life is more accurately shown by calculating the stillbirth rate per 1,000 total births (including stillbirths). In Bristol this was 38·2 (an increase of ·7) compared with a national rate of 39 per 1,000 total births. Last year the corresponding figures were 37·5 and 41.

Total births registered by sex and legitimacy and in registration sub-districts.†

Total 1936		Total 1937	Live births.		Still births	
			Males	Females	Males	Females
6,545	Legitimate ...	6,600	3,263	3,069	137	131
231	Illegitimate ...	250	136	100	6	8
6,776	TOTAL ...	6,850	3,399	3,169	143	139
475	Ashley ...	472	227	236	5	4
1,208	Bristol South	1,191	598	556	18	19
1,670	„ Central	1,601	793	696	56	56
1,102	Clifton ...	1,266	645	584	19	18
722	St. George ...	640	312	308	13	7
344	Stapleton ...	387	189	190	4	4
1,255	Westbury-on- Trym ...	1,293	635	599	28	31

† These figures are uncorrected.

Births notified.

The number of births notified under the Notification of Births Act, 1915, is included in the report on the maternity and child welfare section.

Deaths.

Rate per 1,000 population.

	Bristol	England and Wales.	Combined County Boroughs
1937	11·44	12·4	12·5
1936	12·27	12·1	12·3

The total number of deaths of domiciled Bristol residents registered during the year was 4,751, a decrease of 329 on the number recorded in 1936. The deaths, which comprised 2,354 males and 2,397 females, have been classified throughout this section under the principal causes according to the manual of the international list of causes of death, and are to be found in quarters, age groups and in registration sub-districts.

This figure gives a *crude death rate* of 11·44 per 1,000 population, a decrease of 0·83 compared with last year.

To make local death rates comparable with the death rate of the country as a whole or with the mortality of any other local area,

they must be modified with a comparability factor. The corrected death rates for Bristol since 1931 are :—

Year	Bristol C.B.		Combined county boroughs	England and Wales
	Crude death rate	Adjusted death rate		
1937	11·44	11·2	12·5	12·4
1936	12·27	12·02	12·3	12·1
1935	10·79	10·57	11·8	11·7
1934	10·9	10·7	11·8	11·8
1933	12·0	11·8	12·2	12·3
1932	11·6	11·4	11·8	12·0
1931	11·8	11·6	12·3	12·3

Bristol's adjusted death rate is 1·2 per 1,000 below the national rate and 1·3 lower than the rate for the combined county boroughs.

Causes of mortality.

Heart disease again heads the list in order of numerical importance as the principal cause of mortality, with 26·06 per cent. of the total deaths, followed by cancer (13·58 per cent), respiratory diseases excluding pulmonary tuberculosis (11·67 per cent.) and pulmonary tuberculosis (5·87 per cent.) More than half the total deaths registered were due to these four causes and they are in the same order of precedence as last year.

Causes of death which show marked decreases in the death rate compared with the previous year are measles, diphtheria, syphilis, heart disease, bronchitis and pneumonia.

The most notable increases are provided by influenza (0·12) and circulatory diseases excluding heart disease and aneurysm (0·47). In a number of causes there is no marked change to record.

Death rate in quarters.

The death rate for the first quarter of the year was 14·60 per 1,000 ; for the second, 10·72 ; for the third, 8·92 ; and for the fourth, 11·56. These rates, which are lower for each quarter, reflect the drop in the general death rate, but apart from this show a normal seasonal variation.

Causes of death by ages.

An examination of this age group table discloses that for certain causes the majority of deaths occurred in certain age groups, for instance :—

Diphtheria	...	...	88%	under 15 years.
Diarrhoea, etc.	...	...	42%	„ 2 „
Pulmonary tuberculosis	...	...	95%	between 25 and 65 years.
do.	...	...	67%	„ 25 and 45 years.
Influenza	...	...	79%	over 45 years.
Cancer	...	...	93%	„ 45 „
do.	...	...	39%	between 45 and 65 years.
Diabetes	...	...	56%	over 65 years.
Heart disease	...	...	94%	„ 45 „
do.	...	...	72%	„ 65 „
Peptic ulcer	...	...	84%	„ 45 „
Liver diseases	...	...	90%	„ 45 „
Nephritis	...	...	57%	„ 65 „

The percentages of total deaths in different age groups are as follows :—

Per cent. 1936.		Age group.	Per cent. 1937
5·7	Infants	0— 1	5·8
8·1	Pre-school children	0— 5	7·5
2·1	School age	5—15	1·5
3·1	Young people	15—25	3·2
9·2	Adults, group i	25—45	9·0
26·5	" " ii	45—65	26·3
51·0	" " iii	65—	52·5

It can be seen from this table that decreases are shown in the pre-school and school groups, and to a smaller degree in the first and second adult groups.

Accidents as a cause of mortality.

1936	ACCIDENTS	Mechanically propelled vehicles.					Horse drawn vehicles and horses	Pedal cycles	Totals, 1937	
		Omni-buses and motor coaches	Tramcars and trackless trolley vehicles	Motor cycles	Private and other cars	Other vehicles			Persons in-volved	Accidents
38	Fatal ..	1	1	3	17	10	—	6	40	38
1,257	Non-fatal	30	20	158	364	122	10	431	1,311	1,135

In 1937, the deaths from causes due to violence other than suicide, gave a death rate of ·36 per thousand, ·05 less than last year. This rate includes a number of deaths directly due to street accidents in which vehicular traffic and cycles were concerned. The chief constable informs me that 40 fatalities occurred during the year from street accidents, so that ·09 per 1,000 of the violence death rate may be directly attributed to this cause. Altogether 1,173 traffic accidents were reported (122 less than in 1936) involving 1,351 persons in death or injury, and the fatalities represent 3·1 per cent. of the total accidents.

Miscellaneous.

The number of inquests, and deaths certified by the coroner without an inquest during the year was 461. This represents 9·7 per cent. of the total deaths registered.

Deaths in public institutions in Bristol, excluding deaths in nursing homes, totalled 1,982 or 41·7 per cent. of the total deaths registered compared with 40·5 per cent. last year and 46·5 per cent. in 1935.

Comparative Statistics 1937	Population	Rate per 1,000 population.		Rate per 1,000 live births	Rate per 1,000 total births		
		Live Births	Deaths (ad- justed)	Deaths under one year	Maternal deaths		Still- births
					All causes	Puerper- al sepsis	
England & Wales	—	14·9	12·4	58	3·11	0·94	—
County Boroughs	—	14·9	12·5	62	not	available	
Birmingham ...	1,043,000	16·3	12·9	60	2·96	0·74	35·0
Liverpool ...	867,110	19·3	15·2	82	2·31	0·58	35·6
Manchester ...	751,371	14·3	15·4	76	4·19	1·34	41·7
Sheffield ...	518,200	15·37	14·16	55	3·37	1·57	41·1
Leeds ...	491,860	14·8	14·3	67	2·24	0·79	41·2
Bristol ...	415,100	14·5	11·2	46	3·53	1·12	38·2
Bradford ...	289,510	13·9	14·7	70	2·62	0·95	44·4
Nottingham ...	278,800	15·9	13·8	80	2·82	0·87	34·2
West Ham ...	259,500	16·1	13·6	62	1·1	0·46	34·5
Portsmouth ...	256,200	14·9	11·38	44	1·5	—	37·4
Cardiff ...	220,200	15·4	13·3	65	3·67	0·85	39·0

This table is compiled from the annual summary tables published by the registrar general and from statistics kindly furnished by the medical officers of health of the towns quoted.

The features of note in regard to the vital statistics for Bristol for 1937 compared with ten other large towns, the county boroughs, and with England and Wales are as follows :—

- (1) Bristol had the lowest death rate (11·2), which was also 1·2 below the national rate ;
- (2) with the exception of Portsmouth, Bristol had the lowest infant mortality rate, the Bristol rate being also 12 per 1,000 births below the rate for the whole country ;
- (3) the maternal mortality rate was 0·42 above the national rate, the rate from puerperal sepsis being 0·18 above the national rate ; the rate for Bristol is exceeded only by Cardiff and Manchester in the table above.

Thus Bristol, during the year under review, maintained generally favourable local health statistics compared with national rates, except as regards the maternal mortality rate already mentioned.

1937.

Causes of Death. Percentage to total and death rates.

1936	Principal causes of death.	Net deaths in 1937	% to total deaths.	Death rate per 1,000
—	1 Typhoid and paratyphoid fevers ...	1	0·02	·002
38	2 Measles	2	0·04	·004
2	3 Scarlet fever... ..	4	0·08	·009
18	4 Whooping cough	15	0·32	·04
15	5 Diphtheria	8	0·17	·02
53	6 Influenza	104	2·18	·25
7	7 Encephalitis lethargica	5	0·11	·01
1	8 Cerebro spinal fever	7	0·15	·02
292	9 Tuberculosis of respiratory system	279	5·87	·67
45	10 Other tuberculous diseases ...	53	1·12	·13
28	11 Syphilis	16	0·33	·04
12	12 General paralysis insane, tabes dorsalis	16	0·33	·04
679	13 Cancer, malignant disease	645	13·58	1·55
71	14 Diabetes	81	1·71	·19
297	15 Cerebral haemorrhage, etc. ...	271	5·71	·65
1,370	16 Heart disease	1,238	26·06	2·98
28	17 Aneurysm	21	0·44	·05
231	18 Other circulatory diseases	223	4·69	·54
166	19 Bronchitis	146	3·07	·35
251	20 Pneumonia (all forms)	217	4·57	·52
68	21 Other respiratory diseases	88	1·85	·21
46	22 Peptic ulcer	49	1·05	·12
42	23 Diarrhoea, etc.	26	0·55	·06
24	24 Appendicitis	24	0·51	·06
8	25 Cirrhosis of liver	10	0·22	·02
11	26 Other diseases of liver, etc. ...	20	0·44	·05
90	27 Other digestive diseases	88	1·85	·21
154	28 Acute and chronic nephritis ...	141	2·95	·34
7	29 Puerperal sepsis	8	0·17	·02
12	30 Other puerperal causes	16	0·33	·04
173	31 Congenital debility, premature birth, malformations, etc.	187	3·92	·45
190	32 Senility	167	3·52	·40
72	33 Suicide	45	0·93	·11
171	34 Other violence	149	3·14	·36
404	35 Other defined causes	381	8·02	·92
4	36 Causes ill-defined or unknown ...	—	—	—
5,080		4,751	100·00	11·44
Sub-entries included in above figures :				
201	18 Arterio-sclerosis	189	3·96	·45
41	35 Rheumatic fever	42	0·88	·10

1937.

Causes of death in quarters.

Total 1936	Disease.	Quarters.				Total 1937
		1st	2nd	3rd	4th	
—	1 Typhoid and paratyphoid fevers	1	—	—	—	1
38	2 Measles	—	1	—	1	2
2	3 Scarlet fever	2	—	—	2	4
18	4 Whooping cough	8	3	3	1	15
15	5 Diphtheria	3	2	1	2	8
53	6 Influenza	88	6	2	8	104
7	7 Encephalitis lethargica	1	2	1	1	5
1	8 Cerebro spinal fever	1	3	1	2	7
292	9 Tuberculosis of respiratory system	93	63	61	62	279
45	10 Other tuberculous diseases ...	12	23	7	11	53
28	11 Syphilis	7	4	3	2	16
12	12 General paralysis insane, tabes dorsalis	4	1	7	4	16
679	13 Cancer, malignant disease ...	183	150	163	149	645
71	14 Diabetes	15	24	14	28	81
297	15 Cerebral haemorrhage, etc. ...	71	62	48	90	271
1,370	16 Heart disease	370	302	230	336	1,238
28	17 Aneurysm	11	7	2	1	21
231	18 Other circulatory diseases ...	60	63	37	63	223
166	19 Bronchitis	68	20	9	49	146
251	20 Pneumonia (all forms)	79	38	24	76	217
68	21 Other respiratory diseases ...	38	28	14	8	88
46	22 Peptic ulcer	18	4	17	10	49
42	23 Diarrhoea, etc.	6	7	7	6	26
24	24 Appendicitis	8	4	6	6	24
8	25 Cirrhosis of liver	1	2	2	5	10
11	26 Other diseases of liver, etc. ...	6	4	3	7	20
90	27 Other digestive diseases	28	10	25	25	88
154	28 Acute and chronic nephritis ...	43	38	32	28	141
7	29 Puerperal sepsis	2	4	1	1	8
12	30 Other puerperal causes	6	1	3	6	16
173	31 Congenital debility, premature birth, malformations, etc. ...	53	55	33	46	187
190	32 Senility	57	41	32	37	167
72	33 Suicide	11	14	11	9	45
171	34 Other violence	41	25	40	43	149
404	35 Other defined causes	108	85	87	73	381
4	36 Causes ill-defined or unknown	—	—	—	—	—
5,080	TOTAL ...	1,516	1,111	926	1,198	4,751
12·27	Death rate per 1,000	14·60	10·72	8·92	11·56	11·44
	Sub entries included in above figures :—					
201	18 Arterio-sclerosis	54	50	29	56	189
41	35 Rheumatic fever	13	15	8	6	42

1937.

Causes of death at ages.

CAUSE OF DEATH.		Deaths in whole district at subjoined ages								Corrections made for transferable deaths.		Total deaths in Public Institutions.	
		All ages	Under 1	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	Inward Transfers (+)		Outward Transfers (-)
Certified		4749	275	43	39	71	149	434	1246	2492	101	528	1981
Uncertified		2	..	..	..	..	..	1	..	1	..	..	1
1 Typhoid and paratyphoid fevers ..		1	..	..	2	..	..	1	..	..	..	..	1
2 Measles		12	..	..	..	..	..	..	..	..	..	..	2
3 Scarlet fever		4	..	1	1	2	..	..	..	..	..	2	3
4 Whooping cough		15	8	5	2	..	..	..	..	..	..	..	8
5 Diphtheria		8	..	..	4	3	..	1	..	..	..	..	1
6 Influenza		104	5	1	2	1	2	11	35	47	1	9	25
7 Encephalitis lethargica		5	..	..	..	2	..	1	..	2	..	2	3
8 Cerebro spinal fever		7	..	2	..	..	1	2	2	..	..	..	7
9 Tuberculosis of respiratory system..		279	1	..	..	1	65	121	80	11	12	14	145
10 Other tuberculous diseases		53	3	7	4	14	8	10	6	1	2	16	34
11 Syphilis		16	4	..	..	..	..	3	9	..	..	..	13
12 General paralysis insane, tabes dorsalis		16	..	..	..	..	..	2	11	3	1	..	14
13 Cancer, malignant disease		645	..	..	..	1	4	38	254	348	9	82	260
14 Diabetes		81	..	..	..	1	1	3	31	45	..	13	31
15 Cerebral haemorrhage, etc.		271	1	1	..	..	..	4	71	194	2	15	81
16 Heart disease		1238	2	1	..	2	8	50	281	894	24	51	389
17 Aneurysm		21	..	..	..	1	..	..	10	10	1	..	4
18 Other circulatory diseases		223	..	..	..	..	..	3	59	161	4	11	65
19 Bronchitis		146	3	..	1	..	..	5	24	113	1	3	42
20 Pneumonia (all forms)		217	39	9	7	5	2	20	68	67	8	39	106
21 Other respiratory diseases		88	..	..	3	1	1	6	27	50	2	9	61
22 Peptic ulcer		49	..	..	..	..	8	19	22	1	10	29	
23 Diarrhoea, etc.		26	9	2	4	1	2	2	6	..	10	17	
24 Appendicitis		24	..	2	1	1	2	8	5	5	..	12	21
25 Cirrhosis of liver		10	..	..	..	..	..	1	3	6	..	1	3
26 Other diseases of liver, etc.		20	1	..	..	..	..	1	9	9	..	5	11
27 Other digestive diseases		88	2	2	2	1	1	6	26	48	4	31	62
28 Acute and chronic nephritis		141	..	..	..	3	2	14	41	81	..	16	53
29 Puerperal sepsis		8	..	..	..	..	3	5	..	..	..	3	8
30 Other puerperal causes		16	..	..	..	..	2	14	..	..	1	4	10
31 Congenital debility, premature birth, malformations, etc.		187	180	4	..	2	1	..	..	..	2	28	121
32 Senility		167	..	..	..	..	..	1	167	3	6	42	
33 Suicide		45	..	..	..	..	3	16	17	9	2	5	7
34 Other violence		149	3	3	1	11	18	19	46	48	13	41	93
35 Other defined causes		381	14	3	5	18	25	60	109	147	8	89	204
36 Causes ill-defined or unknown .. .. .		..	..	..	..	..	..	..	..	..	..	..	..
All Causes		4751	275	43	39	71	149	435	1246	2493	101	528	1982
Sub-entries included in above figures	18 Arterio-sclerosis	189	..	..	..	..	..	1	42	146	4	9	47
	35 Poliomyelitis	1	..	..	..	..	1	..	..	..	..	..	..
	Erysipelas	5	1	..	..	..	1	..	2	1	..	1	..
	Rheumatic fever	42	1	..	..	7	4	12	5	13	2	4	10
	Anthrax	1	..	..	..	..	..	1	..	..	..	..	1
	Polio-encephalitis	2	..	..	..	1	..	1	..	..	1	..	2

1937.

Causes of death in registration sub-districts.

CAUSE OF DEATH				DEATHS IN DISTRICTS AT ALL AGES.							
				All districts	Ashley	Bristol South	Bristol Central	Clifton	St. George	Stapleton	Westbury-on-Trym	Municipal Institutions (home unknown)	Port Cases
Certified	4751	712	1184	429	547	952	590	312	22	1	
Uncertified .. .. .	..	..	2	..	..	..	..	..	..	..
1 Typhoid and paratyphoid fevers ..	1	..	1	..	..	..	..	..	..	..
2 Measles	2	..	..	..	1	1	..	..	..	..
3 Scarlet fever	4	1	1	..	1	..	1	..	..	..
4 Whooping cough	15	1	8	1	..	2	3	..	..	..
5 Diphtheria	8	..	3	..	..	3	1	1	..	..
6 Influenza	104	14	34	16	11	16	7	6	..	..
7 Encephalitis lethargica	5	1	..	1	..	1	..	2	..	..
8 Cerebro spinal fever	7	1	..	1	..	4	..	1	..	..
9 Tuberculosis of respiratory system ..	279	35	80	21	32	66	27	17	1	..	
10 Other tuberculous diseases	53	8	16	4	3	12	4	6	..	..
11 Syphilis	16	3	5	2	3	2	..	1	..	..
12 General paralysis insane, tabes dorsalis	16	1	2	5	1	5	1	1	..	..
13 Cancer, malignant disease	645	106	185	56	80	110	67	39	2	..	
14 Diabetes	81	18	18	6	8	21	6	4	..	..
15 Cerebral haemorrhage, etc.	271	49	67	19	24	45	48	18	1	..	
16 Heart disease	1,238	175	283	128	154	245	171	77	4	1	
17 Aneurysm	21	1	6	2	4	3	2	3	..	..
18 Other circulatory diseases	223	26	59	17	28	53	29	11	..	..
19 Bronchitis	146	24	27	17	9	33	27	9	..	..
20 Pneumonia (all forms)	217	24	50	28	23	49	30	10	3	..	
21 Other respiratory diseases	88	15	14	7	13	17	13	6	3	..	
22 Peptic ulcer	49	12	11	2	6	10	1	7	..	..
23 Diarrhoea, etc.	26	4	8	1	2	4	6	1	..	..
24 Appendicitis	24	5	7	..	3	5	..	4	..	..
25 Cirrhosis of liver	10	4	3	..	1	..	2	..	..	..
26 Other diseases of liver, etc.	20	3	3	1	4	4	3	2	..	..
27 Other digestive diseases	88	16	23	12	5	15	12	5	..	..
28 Acute and chronic nephritis	141	16	31	10	18	43	16	7	..	..
29 Puerperal sepsis	8	..	2	..	2	1	3	..	..	..
30 Other puerperal causes	16	2	3	3	2	3	2	1	..	..
31 Congenital debility, premature birth, malformations, etc.	187	24	63	14	10	38	20	18	..	..
32 Senility	167	41	33	13	28	22	19	9	2	..	
33 Suicide	45	5	7	2	7	14	4	5	1	..	
34 Other violence	149	21	37	8	16	36	15	12	4	..	
35 Other defined causes	381	56	96	32	48	69	50	29	1	..	
36 Causes ill-defined or unknown .. .. .	..	..	..	..	..	..	..	..	..	..
All causes	4,751	712	1,186	429	547	952	590	312	22	1	
Sub-entries included in above figures	18 Arterio-sclerosis	22	53	15	22	45	24	8	..	..
	35 Poliomyelitis	1	..	..	1	..	..	..	..	..
	Erysipelas	5	..	5	..	..	..	..	..	..
	Rheumatic fever	42	8	13	1	3	7	4	..	..
	Anthrax	1	..	..	..	1	..	..	..	..
	Polio-encephalitis	2	..	2	..	..	..	..	..	..
Deaths of infants under 1	275	32	90	22	21	52	36	22	..	..

II.—GENERAL PROVISION OF HEALTH SERVICES.

Department of Public Health—Laboratory facilities—Ambulance facilities—Nursing in the home—Clinics and treatment centres—Central Health Clinic—Hospitals and nursing homes—blood transfusion service—Bristol Hospitals Council—hospital administration—recovery of cost of maintenance—hospital developments—almoner—hospital costings—consultative staff—dental services—training of nurses—nursery nurses' training scheme—Communal cultural development—Open spaces—Public Health Act, 1936—movable dwellings—Parliamentary powers—noise nuisances—meat inspection—Local Government Act, 1929—poor law medical out relief—National insurance medical service—Mental deficiency—Health education—national health campaign—tuberculosis conference—nutrition—Municipal aerodrome—Air raid precautions.

II.—GENERAL PROVISION OF HEALTH SERVICES.

Department of Public Health.

The City Council have delegated to the Public Health Committee all their powers and duties which can be delegated to a committee in respect of all matters such as the following :—

Port health administration ; private drains, sanitary conveniences ; paving of yards and passages, filthy or verminous premises ; control over certain public sanitary conveniences ; nuisances and offensive trades ; water supplies ; public pumps or cisterns ; polluted wells and insanitary cisterns ; prevention notification and treatment of disease ; hospitals and nursing homes ; notification of births, maternity and child welfare, midwives and child life protection ; common lodging houses ; canal boats ; nuisances in connection with water courses ; ditches and ponds ; nuisances arising from tents, vans and sheds ; control of movable dwellings ; inspection and supervision of meat, milk and food ; factories, workshops, bakehouses and laundries ; slaughterhouses ; venereal diseases ; fertilisers and feeding stuffs ; shops hours and regulations ; pharmacy and poisons ; rag flock ; agricultural produce ; merchandise marks ; food and drugs adulteration ; preservatives in food ; artificial cream ; rats and mice destruction.

The Health Committee deals with all questions of policy and governs expenditure by acting as the accounts and contracts committee. In addition, the following sub-committees have been appointed :—

Public health institutions :	upkeep of buildings and plant, extensions, etc.
Maternity & child welfare :	maternity and child welfare scheme, municipal midwives, etc.
Assessment :	recovery of cost of maintenance of patients.
Farms and gardens :	hospital produce.
Port health :	port sanitary and imported food regulations.
Public abattoir ; Offensive trades ; Staff ; and Pathology.	

The Health Committee also appoints representatives on joint committees as follows :—

Co-ordination of medical services (with Education and Public Assistance Committees) ; Tuberculosis voluntary after-care ; Contracts ; Open spaces ; and Farms.

Staff.

All public health officers of the local authority hold the requisite certificates or qualifications required for their appointments.

Laboratory facilities.

The revised scheme with the University for the provision of laboratory facilities remains as described last year.

A considerable increase in the work carried out on behalf of the city is recorded for the year. The following examinations were made during the last four years :—

		Minor.	Major.	Total.
October, 1933/34	...	18,432	7,764	26,196
„ 1934/35	...	25,204	9,175	34,379
„ 1935/36	...	15,035	9,852	24,887
„ 1936/37	...	14,533	12,170	26,703

In the chemical section, food and drugs samples (including milk) have increased by 14 per cent. ; milk samples by 26 per cent. ; while other samples decreased by 19 per cent.

Reports by Dr. J. D. A. Gray, the senior bacteriologist, and Dr. D. M. Stone, the senior clinical pathologist, on the work of the preventive medicine laboratory for the city in 1937 and by Mr. F. E. Needs, F.I.C., the public analyst, will be found appended to this report.

Ambulance facilities.

Service by	Infectious cases.	Non-infectious cases
Health Committee	1,899	—
Public Assistance Committee ...	—	4,614
City and Marine Ambulance Corps	—	7,200
St. John's Ambulance Corps ...	—	9,258

There are no changes from last year in the arrangements for the transport of infectious, non-infectious, accident and maternity cases to record. In 1937, public ambulance services removed 22,971 cases. Day and night service is provided for all kinds of cases.

Nursing in the home.

The arrangement for nursing the sick in their homes is provided in Bristol solely by private societies and institutions as detailed in my report for 1930. Since August, 1931, the Health Committee has made annual grants of 25/- per case to the Bristol and Clifton District Nurses' Society for nursing approved cases of tuberculosis in their own homes. During the year the society undertook the nursing of 42 cases making a total of 217 cases nursed since the arrangement began.

The funds of this society and other district nursing associations, are subscribed to by the Public Assistance Committee, on behalf of the Corporation, in recognition of their valuable work to the community, which doubtless relieves considerably the pressure on the hospitals and sick institutions of the city.

Clinics and treatment centres.

Clinics.	School medical	Maternity and child welfare.	Chest	Venereal disease.	Others (voluntary)
General	5*	—	—	—	—
Cardio-rheumatic ...	1*	—	—	—	—
Orthopaedic	1*	—	1	—	—
Diphtheria immunisation	1*	—	—	—	—
Dental	5*	—	—	—	—
Eye	3*	—	—	—	—
Ear, Nose & Throat	3*	—	1	—	—
Child Guidance	1*	—	—	—	—
Speech	1	—	—	—	—
Ringworm x-ray	1	—	—	—	—
Artificial sunlight ...	—	1†	1	—	—
Ante-natal	—	11	—	—	—
Post-natal	—	3	—	—	—
Infant welfare	—	5	—	—	19
Backward children	—	1	—	—	—
X-ray	—	Available	for all services.	—	—
Venereal disease ...	—	—	—	1	—

* Also deals with cases referred from Maternity and Child Welfare Service.

† Also deals with cases referred from School Medical Service.

In addition, there are the outpatient and casualty departments attached to the voluntary general hospitals.

Central Health Clinic.

In my last report I referred to the Central Health Clinic which was then in course of erection. The clinic was opened in July, 1937. The opening of this clinic forms an essential part of the Council's scheme for the replacement of the unsatisfactory clinic premises by the erection of specially designed buildings. The erection of such buildings has enabled closer co-ordination to be obtained between the maternity and child welfare and school medical services by the provision in the same buildings of accommodation for both services. The Council's scheme is the provision of a main central health clinic with a ring of smaller health centres to serve the outlying areas of the city. At the present time, the scheme so far comprises the Central Health Clinic, and three Health Centres (Bedminster, Speedwell and Portway). A fourth centre is in course of erection at Southmead, and a fifth is in course of preparation for the districts of Brislington and S. Anne's.

The Central Health Clinic is, as its name implies, centrally situated, being easily accessible by tram and bus from all parts

of the city. The clinic occupies an island site, and the services it provides are :—

Consulting, weighing and waiting rooms for maternity and child welfare purposes (ante-natal and infant welfare).

Treatment and waiting rooms for minor ailments.

Four dental units, complete with recovery rooms.

Specialist medical services, viz. :—

Eye,

Ear, nose and throat,

Rheumatic heart conditions,

Orthopaedic, including massage, electrical treatment and remedial exercises.

Artificial pneumothorax.

Chest clinic, including waiting rooms and plaster room.

Artificial sunlight department containing local and general radiation facilities.

X-ray department, which comprises the latest design of shock-proof apparatus, also a unit for superficial therapy.

Dispensary.

The district health centres also provide these services with the exception of chest, orthopaedic, heart, sunlight and x-ray. Every facility for the health supervision of the pre-school child (including the backward child), the school child, and the expectant and nursing mother is provided either at the district health centre or at the central health clinic.

The city has been divided into areas and the health centres are attached to specified districts both as regards maternity and child welfare as well as for school medical purposes.

Arrangements exist whereby children under five years of age suffering from minor ailments or ear, nose and throat, eye and orthopaedic afflictions are referred to the specialists who deal with the same classes of patients in the school medical service.

Hospitals and Nursing Homes.

The total number of beds provided for the treatment of the sick is :

Type.	Municipal.	Voluntary.
Infectious disease ...	337	—
Tuberculosis	314	—
Maternity	44	169
General	466	998

The Health Committee makes hospital provision as follows :—

Southmead Hospital : medical, surgical and maternity (510).

Ham Green Hospital: infectious disease (337) and tuberculosis (160).

Frenchay Park : orthopaedic and tubercular diseases in children (96).

and maintains 58 beds at Winsley Sanatorium for the treatment of pulmonary tuberculosis.

The Health Committee's hospitals provide the following services :

Southmead General Hospital :—

Almoner—ante-natal clinic and consultative ante-natal clinic—post natal clinic—dental department—dietician—ear, nose and throat department—electrical department—electro cardiograph unit—gynaecological unit—instruction in obstetrics to students—laboratory—laundry—massage department—maternity department (nursery for healthy infants attached)—midwives training school—female nurses training school—occupational therapy—orthopaedic surgical unit—rheumatism unit—skin diseases treatment—tonsils and adenoids (school children) treatment—tuberculosis (non-pulmonary), men, women, children—urological diseases unit—x-ray, diagnostic.

Ham Green Isolation Hospital and Sanatorium :—

Dental department—laboratory—laundry—female nurses training school—occupational therapy—tuberculosis (pulmonary and non-pulmonary), men, women—x-ray, diagnostic.

Frenchay Park Sanatorium.

Dental department—electrical treatment—ultra violet light treatment—massage department—female nurses training school—tonsils and adenoids (school children) treatment—tuberculosis (pulmonary and non-pulmonary) children—x-ray, diagnostic.

There are six voluntary general hospitals for medical, surgical and gynaecological cases, maintained largely by public subscription. Some idea of the work performed by these voluntary hospitals is given below. The work of the municipal general and special hospitals, sanatoria and institutions will be found reported in the appendix.

VOLUNTARY HOSPITALS.	Total no. of beds.	Average no. occupied	No. of in- patients	No. of out- patients
Bristol Royal Infirmary ...	410	363·8	10,532	69,113
Bristol General Hospital ...	269	255·7	5,930	40,445
Bristol Royal Hospital for sick children and women ...	120	87·1	2,261	5,926
Cossham Memorial Hospital	95	66·6	1,331	2,707
Bristol Homoeopathic Hospital	78	63·7	1,326	15,883
Bristol Eye Hospital ...	70	48·7	1,017	17,794
Bristol Maternity Hospital and Temporary Home ...	30	28·5	704	—
Walker Dunbar Private Hospital for women and children	30	21·0	272	2,429

Convalescent hospital accommodation has been provided by voluntary effort at the Queen Victoria Convalescent Home, Durdham Down (81 beds) and at the Children's Convalescent Home (a branch of the Bristol Children's Hospital) at Weston-super-Mare (44 beds). There is a voluntary orthopaedic and heart hospital for children (110 beds) at Winford.

Nursing homes.

The number of registered homes in the area now totals 30. The arrangements for inspection remain as in previous years, namely, that they are visited at regular intervals by the inspector of nursing homes. It has not been necessary to withdraw the registration of any home during the year. The homes registered are :—

NURSING HOME.	BEDS	
	Medical and Surgical	Maternity
St. Mary's Private Hospital	67	—
St. Brenda's Private Hospital	19	3
Pembroke Nursing Home	35	4
St. Andrew's Nursing Home	11	6
Chesterfield Nursing Home	33	10
Kingsway Nursing Home	12	6
Home for Invalids	15	—
West Mall Nursing Home	14	4
Cromwell Nursing Home	1	3
Oakland Nursing Home	—	6
Lonsdale House Nursing Home	14	—
Northumberland Nursing Home	9	—
Mrs. Butler's Nursing Home	4	—
Dorset House Nursing Home	49	—
Walker Dunbar Hospital	22	7
Ashley Grange Annexe Nursing Home	13	—
Eventide Nursing Home	23	—
Hillside Nursing Home	—	8
Hampstead Nursing Home	—	6
Nurse Webb's Nursing Home	—	2
Bristol Maternity Hospital	—	30
Grove House Home	—	12
Rosemont Nursing Home	2	—
Mount Hope Maternity Home	—	3
Drayton House Nursing Home	2	—
Sunnyside Nursing Home	7	—
Miss Tudball's Nursing Home	10	—
Mrs. Bale's Nursing Home	5	—
Mrs. Freeman's Nursing Home	8	—

1936	Nursing Homes.	1937
1	Homes registered	1
8	Homes exempted from registration	8
3	Registrations refused or cancelled	3
32	Total on register	30
153	Visits by inspector	101

Blood transfusion service.

A voluntary service for supplying donors for blood transfusion has been organised by a voluntary committee. No fee is charged, but donations are accepted by the society.

I am indebted to the secretary for the following information regarding transfusions in 1937 by the 135 donors (115 male and 20 female) on the Bristol panel. Altogether 155 transfusions were given.

Percentage of Groups.				Percentage of Results.		
Group	1	...	4	Improved	...	45
	2	...	44	Life-saving	...	35
	3	...	6	Unsuccessful	...	20
	4	...	46			

A large number of the reports obtained from the surgeons are not definite enough to call "life-savers" and so are included in the "improved cases." The "unsuccessful cases" are chiefly where the patients have died usually through secondary causes, or a collapse after a temporary improvement.

Bristol Hospitals Council.

For the purpose of section 13 of the Local Government Act, 1929, the Bristol Hospitals Council has been recognised by the City Council, and this body is consulted on questions affecting hospital provision in Bristol. The Bristol Hospitals Council which was formed in 1929, includes the Lord Mayor, the Vice-Chancellor of the University (as chairman) and representatives of all voluntary hospitals as well as of the Health and Public Assistance Committees. The medical officer of health is also a member ex-officio. It was consulted by the City Council during 1937 in regard to maternity and hospitals accommodation in the city, and the provision of beds at Southmead hospital for the chronic sick.

Hospital administration.

The administration of the Health Committee's institutions is centralised at the health department under the medical officer of health. To deal with the various matters arising at the hospitals, the Health Committee have appointed sub-committees to deal with

- (1) questions affecting extensions, upkeep of buildings, plant, etc.
- (2) matters relating to staff and allied questions and
- (3) recovery of cost of maintenance of patients.

The admission of patients to any of the Committee's institutions is arranged through the medical officer of health, to whom application should be made, and a 24-hour service is given to the public. A resident caretaker is on duty at the Central Health Clinic for night services.

Recovery of cost of maintenance.

An assessment of the amount payable in respect of a patient's admission to Southmead Hospital is made by the Assessment sub-committee of the Health Committee after consideration of the family circumstances.

Agreements under section 16 of the Local Government Act 1929 have been entered into by the Health Committee with employees' medical funds committees of several large firms in the city and with the committee of the Bristol Medical Institutions Contributory Scheme.

Ham Green Hospital extensions.

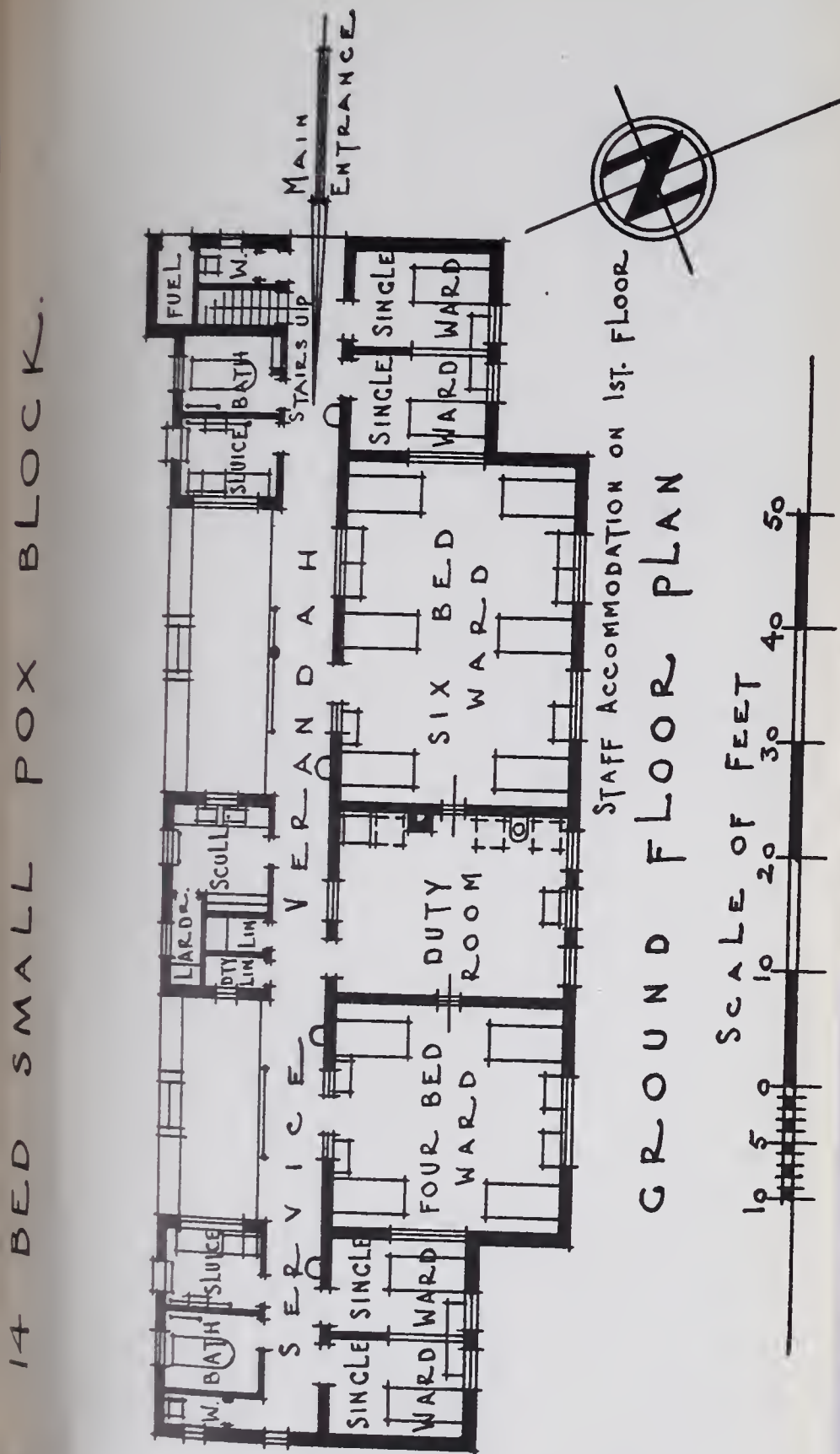
(1) The extensions at Ham Green Hospital were officially opened on 23rd September 1937, by Professor W. W. Jameson, Dean of the London School of Hygiene and Tropical Medicine, in the presence of the Lord Mayor (Councillor A. F. Moon) and members of the City Council.

The new accommodation consists of the following—

14 bed block—	to be reserved for emergency smallpox cases.
30 bed block—	to be available for smallpox in event of an epidemic but in the absence of smallpox to be used for general infectious disease.
Disinfector and mortuary—	the unit is completed by the provision of a small disinfector and ablution block, and a mortuary.
28 bed block—	to be used for general infectious disease only and is planned as an addition to the existing infectious disease blocks—includes ten beds allocated to Somerset.
Nurses' accommodation—	for the additional nurses required, the scheme provides for the completion of the nurses' home by adding 14 bedrooms at first and second floor levels over the north-west wing, which was designed for that purpose.

The principle is recognised for the first time that a smallpox hospital can be used in conjunction with an ordinary infectious diseases hospital. The smallpox hospital at Novers Hill has been transferred to the Education Committee and will be developed as an open air school. The additional 72 cubicle accommodation at Ham Green is therefore the replacement at Ham Green of the Novers Hill Hospital.

The arrangement is such that special accommodation for smallpox has been reduced to 14 beds of a special type (with sufficient electrical cooking apparatus and points for its own culinary requirements and those of the adjacent 30-bed block, plus electrical hot cupboards, plates, etc., in each block) and cubicle accommodation





of 30 beds. These are isolated by a distance of 200 yards from any habitable building, enclosed by a boarded ring fence and approached only by a road linking with the existing hospital. The 28-bed cubicle accommodation has been built in close proximity to the existing fever pavilions.

Notable features of these blocks are that they are designed so that at a point in the central duty room every patient may be seen and kept under full observation ; each ward is decorated with different colours carefully graded from pale cream to pale mauve, and all portable furniture and utensils are coloured to match. This system avoids the possibility of any transference of infected utensils, etc., to the wrong cubicle and enables the nursing staff to identify easily and quickly, through the range of glazed observation screens, the ward in which any patient requires attention.

The wards are served with open corridors provided with foot operated basins for the ablutionary uses of doctors and nurses passing from cubicle to cubicle ; the opening parts of windows have fixed fly-proofed screens ; wards are heated by radiant panels in the concrete ceilings.

As a result of conferences with the Somerset County Council, the Bristol City Council has agreed to provide fever accommodation under the present extension scheme to accommodate infectious disease for the districts of Long Ashton, Clevedon and Portishead. The inhabitants of these areas will receive equally with the residents of Bristol the full facilities provided at Ham Green Hospital.

This accommodation increases the infectious disease beds at Ham Green to a nursing total of 337.

The amount of the contract for the whole scheme was £39,541.

(2) The electricity supply to Ham Green Hospital, which was partly direct and partly alternating current, was no longer adequate to meet the demands of the recent extensions. The Health Committee decided that the increased supply should be taken from the Corporation mains, necessitating the laying of two additional cables across the River Avon, the provision of other cables and sub-stations and the rewiring of part of the installation for alternating current, at a cost of £3,783. At the same time, the Committee gave consideration to the heating and hot water supply at the hospital. The institution has been extended from time to time over many years, the various blocks being heated mainly by independent boilers or open fires in the wards, and hot water provided from separate boilers. This uneconomical system is now being centralised at a cost of £7,000.

Southmead Hospital extensions.

In July 1937 the Council approved the acceptance of tenders for the erection of 100 maternity beds and a nurses' home at Southmead Hospital amounting to £161,823. At the same time the Health Committee made certain recommendations which were approved with regard to the future development of the hospital, as follows :—

(a) The need for a casualty and continuation clinic at Southmead at which treatment could be given to casualties and to patients who although fit to be discharged from hospital still require hospital

treatment. The building would also provide accommodation for the existing school and maternity and child welfare clinics now housed in unsuitable premises. The estimated cost of the clinic was £27,728.

(b) Since the hospital was appropriated for public health purposes there has been an increasing pressure of cases of acute illness in the beds available with the result that these cases have had to be accommodated in wards originally designed for chronic cases. The Committee recommended the erection of suitable accommodation for the treatment of acute cases and the releasing of existing accommodation for the treatment of chronic sick cases ; at least 250 beds occupied by acute cases should be released for chronic cases.

Accommodation was also urgently needed for observation pulmonary tuberculosis and for patients who for various reasons should be nursed in wards of cubicle type. The report recommended the erection of (1) a 36-bed block at Ham Green for the treatment of pulmonary tuberculosis which would allow the concentration of non-surgical tuberculosis at Ham Green ; (2) a 36-bed ward block of cubicle accommodation at Southmead ; (3) certain alterations and additions to the chalets at Southmead ; (4) a new building for laundry purposes and (5) the replanning of the present kitchen. When completed the buildings referred to will release accommodation for 144 chronic cases at Southmead, thus leaving approximately 100 beds still to be provided and the Committee will report later their proposals for meeting this deficiency after consultation with the Hospitals Council.

The total estimated cost of the works outlined above was £100,343.

The fact that Southmead Hospital has been appropriated by the Corporation as a hospital for the sick of the city is not as generally known throughout the city as it should be ; consequently applications for the admission of Bristol-settled patients continue to be received by relieving officers and to be regarded as applications for relief under the Poor Law Acts, even though such patients may not previously have received any form of public assistance relief. In such cases, therefore, the incident of sickness and a request for its appropriate treatment would bring the applicant for the first time under poor law relief. This procedure appears to be contrary to the intention of the Local Government Act, 1929.

Almoner, Southmead Hospital.

A qualified lady almoner (Miss E. B. C. Powell, A.I.H.A.) commenced duty at Southmead Hospital on 1st April, 1937, and her report on the period to the end of the year will be found in the report on Southmead Hospital (see appendix).

Hospital costings.

1936/1937	Southmead Hospital	Ham Green		Frenchay Park Sanatorium
		Hospital	Sanatorium	
Net average cost per patient per week	£2 7 9·1	£3 17 2·5	£2 18 1·1	£2 12 5·8
No. of patient days	165,710	46,338	53,722	33,686
Average percentage of bed cases ...	87·0	71·6	72·3	75·0

Consultative staff.

The consultative medical staff of the city will be found in the reports of the medical superintendents of the city hospitals and sanatoria printed in the appendix.

Dental services.

The arrangements for providing dental inspection and consultative treatment for school children, infants, hospital and institutions patients and for the maternity service continue as published last year. The report of the joint dental surgeons on their work in so far as the hospitals and maternity service are concerned is appended to this report.

Training of nurses.

The General Nursing Council has approved of all the Health Committee's hospitals as training schools for nurses. Southmead Hospital is approved for training for admission to the general part of the register and Ham Green isolation hospital for the supplementary part of the register for fever nurses. Agreements have been entered into with the Wiltshire County Council, and the Bath and Exeter County Boroughs, enabling nurses commencing training with these authorities to complete their training for admission to the general part of the register at Southmead Hospital. A similar agreement has been entered into with the Borough of Poole in regard to the training of probationers at Ham Green Hospital.

The approval of the affiliation of Frenchay Park sanatorium and orthopaedic hospital to Southmead for training purposes permits probationer nurses who are engaged at Frenchay Park for two years to complete their general training at Southmead Hospital. During the year permission was granted to the General Nursing Council to hold the oral and practical parts of the state examination (general and fever) at Southmead Hospital and Ham Green Hospital respectively.

Nursery nurses training scheme.

Following the appropriation of certain houses at the Downend Homes for the reception and maintenance of infants under five years, a scheme has been developed for the training of suitable girls as nursery nurses and for this purpose the Babies' Home has become affiliated to the National Society of Day Nurseries. Details of the complete training scheme were published in the 1935 report. At the present time there are 16 probationers undergoing training. It is proposed to link up the training of these pupils with the staffing of the nursery schools and classes enabling the pupils to obtain further experience.

Communal cultural development.

The erection of a community centre on the Knowle West Housing Estate (referred to last year) was advanced a stage in April, 1937, when the Council approved a report of the Education and Housing Committees on the accommodation to be provided in the proposed centre. The building will contain a public hall to seat 500 ; there will be a stage with dressing room accommodation at the rear ; a

gymnasium with instructors' rooms, changing rooms and shower baths is included. For adults there will be a games room, skittle alley, a common room, meeting room and a reading room, for which the Libraries Committee will provide papers and periodicals. On the juvenile side there will be a games room, workshop, craftroom and three rooms for general purposes. An office is to be provided near the central entrance, and the canteen will be so placed as to facilitate service to the hall and centre generally. A covered way extending around and open to the central lawn will afford access to all parts of the building and provide cover for watching entertainments on the lawn. The centre was officially opened on 23rd April, 1938. The cost of the centre will be £19,065.

Accommodation has also been made available in the centre for clinic purposes for the district, and the infant welfare and ante-natal clinics at Knowle West have now been transferred to the new building.

In September, 1937, the Education and Housing Committees reported to the Council on the general question of social centres on Housing Estates, referring to the Physical Training and Instruction Act, 1937, which has increased the power of local authorities in connection with the provision of buildings for the purpose of recreation and has made further provision for assistance from national funds towards the cost of providing social centres. On consideration of the report the Council approved in principle the erection of social centres on the Horfield, Hillfields Park and Bedminster Down estates at a cost in each case not exceeding £4,000, subject to a community association being formed on each estate to contribute annually the cost of repairs and maintenance together with the cost of fuel, lighting and cleaning.

Open Spaces.

Representations made have resulted in the Health, Housing and Planning and Public Works Committees appointing a joint sub-committee to consider the question of the provision of open spaces in the populous districts of the city, and a joint report on this matter was considered by the Council in April 1937. The joint sub-committee were satisfied that although the Downs and the parks may be easily accessible to young people for sports and recreational purposes, there are resident in the central areas of the city a considerable number of working class mothers and young children who cannot by reason of the distance from their homes use these larger areas. The clearance of slum areas has caused a number of small sites in congested parts of the city to be left undeveloped, and it was felt that an opportunity had now arisen for acquiring small open spaces which might not be repeated—or at any rate for a considerable number of years. The Council therefore approved the acquisition of three sites in the Easton, Sussex Street and Redcliffe districts.

In June, 1937, the Planning and Public Works Committee reported on the need for an additional open space to serve the large population in East Bristol, and the Council approved the purchase of 32 acres of land at Dundridge Farm, St. George, for use as a public open space ; and also the purchase of 33 acres of land

at Purdown to provide facilities for recreation and the playing of organised games.

The Planning and Public Works Committee further reported in July, 1937, that the King George V Memorial Committee had purchased three acres of land at Feeder Road to be used as an open space for children under twelve years of age, of whom it was estimated there were some 3,000 in the vicinity. The funds at the disposal of the Memorial Committee being insufficient, the Council agreed to be responsible for the maintenance of the playing field after it has been laid out.

Public Health Act, 1936.

The Public Health Act, 1936, which was enacted as part of a scheme for the consolidation and simplification of the law relating to public health and local government, came into force on 1st October, 1937.

Movable dwellings.

Section 269 of the Public Health Act 1936 enables the Council to regulate the use of land for movable dwellings. These powers will be more effective than those possessed under the Bristol Corporation (No. 2) Act 1930 and in November, 1937, the Council on the recommendation of the Health Committee resolved to make application to the Minister of Health for an Order declaring section 269 of the Act of 1936 to be in force in Bristol. An order was made accordingly and came into force on 21st January, 1938.

Parliamentary powers.

In November 1937, on the report of the Health Committee, the Council approved recommendations to secure statutory powers for the Corporation regarding :—

(1) *Nuisance arising from noise.*

Noise nuisances for which there are now no powers enabling the Council to take effective action in the interest of public health.

(2) *Inspection of meat.*

The provision of a central clearing house or houses at which meat brought into the city could be deposited for inspection. The Bristol Corporation Act 1926 enables the Corporation to make byelaws requiring persons bringing meat into the city from outside areas to give notice to the medical officer of health of the time and place at which the meat can be inspected but the present powers of the Corporation do not enable a penalty to be imposed for a breach of the byelaws and for that reason no byelaws have been made. As a temporary measure and until satisfactory clearing house arrangements have been made it was recommended that the Council should seek powers to enable a fine to be imposed for a breach of the byelaws which the Council are empowered to make under the 1926 Act. The Council also decided that after the clearing house has been provided byelaws shall be made requiring persons bringing meat into

the city to deposit it at such clearing houses for inspection with the imposition of a fine for a breach thereof.

Local Government Act, 1929.

My report for 1930 detailed the services transferred under the provisions of the Local Government Act and delegated to the Health Committee under the administrative scheme approved by the Council. There have been no amendments of the scheme as approved by the Ministry of Health since those referred to in the report for 1934.

Poor law medical out-relief.

There has been no change in regard to the policy of medical out-relief, which is under the Public Assistance Committee, since its transfer to the Council. In 1935 the city was divided into twelve relief and medical districts with the medical staff under the general direction of the medical officer of health. These were detailed last year. Cases requiring hospital treatment are admitted to Southmead Hospital.

The work performed by the district medical officers during the year is summarised below :—

DISTRICT No. :—	1	2	3	4	5	6	7	8	9	10	11	12
1. Cases dealt with ..	1,441	1,622	844	1,577	1,985	3,096	2,274	2,424	1,710	1,482	1,184	3,235
2. Attendances at homes	767	1,490	759	974	518	811	551	1,156	1,721	1,083	814	1,260
3. Attendances at surgery	1,016	2,145	1,190	1,336	2,195	2,385	1,725	1,277	1,189	1,599	1,334	1,775
4. Bottles of medicine	1,840	3,394	512	2,214	2,136	2,484	1,902	946	1,140	1,192	609	4,411
5. Certificates given ..	189	237	214	369	321	311	176	1,178	50	55	180	314
6. Recommendations for extra nourishment	5	27	6	60	115	82	95	166	13	30	14	146
7. Dentures recommended	4	3	8	9	10	8	1	—	1	2	7	19
8. Surgical appliances recommended ..	8	3	12	23	7	9	6	10	2	5	14	7
9. Lunacy cases visited (not included in 5)	—	6	—	7	11	4	—	26	4	7	1	3
10. Cases referred to hospital ..	58	93	43	43	53	59	53	103	49	19	69	51
11. Patients in receipt of poor law relief	1,220	766	524	1,222	1,870	3,057	1,968	1,744	1,698	1,242	1,085	2,890

National Insurance medical service.

The clerk to the Bristol Insurance Committee informs me that the total number of insured persons in the city under the National Health Insurance Acts was 175,738 at the end of 1937, roughly 40 per cent. of the population. This is an increase of 4,086 on the corresponding figure for 1936. The prescriptions dispensed during the year (773,543) and the scripts issued (576,801) also show pro rata increases. There are 183 doctors, including assistants, on the medical panel.

Mental Deficiency Acts 1913/1927.

There has been no change in the general administration of this service. At the end of the year the Council was responsible for 1,470 defectives who are dealt with as follows :—

Institutions	...	...	611
Under supervision	...	...	779
Under guardianship	...	...	76
Cases pending	...	...	4

The Mental Deficiency Acts Committee submit a separate report on their work. .

Medical arrangements.

In addition to assistant school medical officers six medical practitioners are approved for the purpose of giving medical certificates under section 5 of the Mental Deficiency Act, 1913.

Medical assistance for all mental defectives who are not resident in institutions has been made available at the various health centres.

Health education.

The public health staff have continued to give health lectures and demonstrations on problems dealing with public health to social, religious and political organisations, and meetings were addressed in addition to the usual lectures at the mothers' schools, clinics, etc. The Bristol branch of the Social Hygiene Council is actively engaged in this work, particularly in relation to social problems including venereal disease and the creation of general interest in biological subjects. The Health Committee makes a grant to the Social Hygiene Council of £139 of which two thirds is allocated to the local branch.

In the annual report of the branch, it is stated that 51 lectures were given during the year and a considerable amount of free literature distributed. In addition parents' conferences have been arranged through the schools with the co-operation of the Education Committee and the head masters and head mistresses. Talks were given by medical speakers and suitable films were shown. The object of these conferences is to secure the co-operation of the parents in developing a closer association between home and school life.

In every possible way due prominence was given to constructive health work and preventative measures necessary to combat disease in order to improve the general standard of health of the people.

Seven advertising hoardings in different parts of the city have been used throughout the year for the purposes of health propaganda and sets of posters designed by the Central Council for Health Education have been published.

National Health Campaign.

The Health Campaign inaugurated by the Prime Minister in September, 1937, aroused widespread interest in the public health services provided by local authorities and voluntary organisations.

In Bristol a special committee consisting of representatives of the Health and Education committees was formed to organise a local campaign on lines similar to those suggested nationally. The campaign extended over a period of six months from October, 1937 to March, 1938. After a preliminary introduction in October, the campaign was devoted during November and December to the maternity and child welfare services, in January to the school health services, followed by tuberculosis and social hygiene during February and a general "keep-fit" programme in March. A series of meetings was held in all parts of the city at schools and evening institutes at which addresses were given by members of the city council and medical specialists, and physical training demonstrations were given by students. Leaflets were distributed appropriate to all phases of the campaign and posters exhibited on the health committee's advertisement boards in various districts. A public meeting was held at the Colston Hall on 16th December at which the principal speakers were the Minister of Health (Sir Kingsley Wood) and Mr. Arthur Greenwood, a former Minister, supported by the Lord Mayor, the Parliamentary Secretary to the Ministry, members of the Council and prominent citizens. A children's choir and "keep-fit" display formed part of the programme. The meeting was well attended and very successful.

National Association for the Prevention of Tuberculosis.

The twenty-third Annual Conference of the National Association for the Prevention of Tuberculosis was held at the Bristol University on 1st, 2nd and 3rd July, 1937, and was attended by a large number of delegates from the Ministry of Health, the Department of Health for Scotland, the Board of Education, the Army Council, the Admiralty and the British Medical Association, and representatives of many local authorities and empire and foreign organisations. Discussions took place on many important aspects of the problem of tuberculosis, and arrangements were made for the delegates to visit the Central Health Clinic recently built by the Corporation, the Children's Orthopaedic Hospital at Frenchay, and the Ham Green and Winsley Sanatoria. The proceedings have been fully reported.

Nutrition.

A report on an investigation into the nutrition of a group of children carried out by Dr. Llywelyn Roberts, assistant medical officer, during 1937, will be found in the report of the school medical officer.

In the maternity and child welfare section the usual series of lectures was given at infant welfare centres regarding the importance of adequate nutrition. The Bristol Gas Company and the Milk Publicity Council gave cooking demonstrations at a number of centres. At two centres an exhibition of home grown vegetables was held and prizes awarded for the best exhibits.

Bristol Municipal Aerodrome.

In February, 1934, the Ministry of Health investigated the measures necessary to give effect to the International Sanitary Convention for Aerial Navigation.

It is expected that in due course the application of the Convention to this country will be effected by the issue of special regulations comparable to the Port Sanitary Regulations 1933 by which the necessary sanitary control of maritime traffic is provided.

Air Raid Precautions.

In December, 1935, the Council appointed an Air Raid Precautions Committee, who have engaged a full-time air raid precautions officer to advise them in the work of organisation of a scheme of precautionary measures, to coordinate the various services and to act as liason officer with outside bodies.

In February, 1938, on the recommendation of the Air Raid Precautions Committee, the Council adopted a detailed scheme of precautions including

1. giving instructions and advice to the public.
2. giving warnings of impending air raids.
3. organisation of a service of air raid wardens.
4. provision of casualty clearing stations and ambulance services.
5. clearing debris and dealing with damaged buildings ; decontaminating highways and buildings ; restriction and regulation of street lighting.
6. detection of poison gas.
7. recruiting and training of personnel.
8. provision of public shelters.
9. distribution of respirators to the public.
10. evacuation schemes.
11. fire brigade services.

Active steps are now being taken to proceed with the preparation of the scheme on the lines indicated.

III.—MATERNITY AND CHILD WELFARE.

Scheme—Vital statistics—infant mortality—diarrhoea and enteritis—maternity mortality—puerperal fever and puerperal pyrexia—ophthalmia neonatorum—notification of births—Midwifery and maternity and child welfare services—practising midwives—provision of mid-day meals—health centres—Applications for maternity assistance—ante-natal and post-natal services—other maternal services—unmarried mothers—Institutional accommodation—day and night nurseries—nursery schools and classes—Health visitors—Child life protection—Orthopaedic treatment—dental treatment—diphtheria immunisation—artificial sunlight.

1937.

INFANT MORTALITY.

Deaths from stated causes under ONE year.

Total 1936	CAUSE OF DEATH	Under 1 Day	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under one month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total 1937	Deaths in Quarters			
																				1st	2nd	3rd	4th
...	Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Scarlet fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	Whooping cough ...	...	...	...	...	...	...	...	2	3	...	2	1	...	...	...	...	...	8	3	3	2	...
1	Diphtheria and croup ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	Erysipelas ...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
1	Tuberculous meningitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	1	...
...	Abdominal tuberculosis ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1	...	1	...	...
1	Other tuberculous diseases ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...
4	Meningitis (not tuberculous) ...	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	1	...	1	...	...	...
1	Convulsions ...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...
...	Laryngitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
2	Bronchitis ...	...	...	...	...	...	...	1	1	...	...	...	...	...	1	...	1	...	...	...	...	1	...
51	Pneumonia (all forms) ...	...	2	3	4	...	9	6	5	2	2	5	3	...	3	1	1	2	39	17	8	3	11
...	Influenza ...	...	...	...	1	...	1	1	...	...	1	...	...	...	...	1	...	1	5	3	1	1	...
...	Diarrhoea ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	Enteritis ...	...	...	1	...	...	1	1	1	...	2	...	...	1	1	2	...	...	9	3	1	4	1
...	Gastritis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	Syphilis ...	...	...	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	2	1	1	...
...	Rickets ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...
...	Found dead ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	Suffocation, overlaying ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	Injury at birth ...	4	7	2	...	1	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	Atelectasis ...	3	6	...	1	...	10	...	...	...	...	...	...	...	...	...	...	...	14	5	3	1	5
46	Congenital malformations ...	10	16	5	4	3	38	4	7	...	2	...	1	...	1	...	2	...	10	4	1	2	3
73	Premature birth ...	32	29	6	6	3	76	3	2	...	3	...	...	...	...	...	...	...	55	13	17	12	13
8	Atrophy, debility & marasmus ...	...	2	1	...	...	3	...	...	...	...	...	...	...	...	...	...	...	84	26	25	14	19
23	Other causes ...	5	11	4	1	1	22	3	1	1	2	2	...	...	...	1	1	...	3	1	1	1	...
290	Totals ...	54	73	22	18	8	175	20	19	8	13	10	6	2	7	5	6	4	275	86	76	51	62

MATERNAL MORTALITY.

Total 1936	Cause of death	Total 1937	Age groups			Deaths in institu- tions	Deaths in districts						
			15 and under 25	25 and under 45	45 and under 65		Ashley	South	Central	Clifton	St. George	Stapleton	Westbury- on-Trym
7	Puerperal sepsis ...	4	1	3	...	4	...	2	...	1	...	1	...
...	Septic abortion ...	4	2	2	...	3	...	...	...	1	1	2	...
...	Abortion ...	1	...	1	...	1	...	...	1	...	...	...	...
...	Placenta praevia ...	1	...	1	...	1	...	...	...	...	1	...	...
2	Post-partum haemorrhage ...	2	...	2	...	1	...	...	2	...	...	...	...
5	Obstetric shock ...	2	...	2	...	2	...	...	...	1	1	...	...
3	Embolism ...	1	...	1	...	...	...	...	...	...	...	1	...
...	Puerperal toxæmia ...	4	1	3	...	2	...	1	...	1	1	...	1
1	Ruptured ectopic gestation ...	1	...	1	...	1	...	1	...	...	...	...	...
1	Eclampsia ...	4	1	3	...	2	2	1	...	...	...	1	...
19	Total ...	24	5	19	...	17	2	5	3	4	4	5	1

RATES.

Infant Mortality	Males			Rate per 1,000 births.
	Females	Total		
Legitimate ...	142	123	265	45.61
Illegitimate	7	3	10	52.36
Total	149	126	275	45.83
Maternal Mortality.			No.	Rate per 1,000 total births
Puerperal sepsis ...			8	1.28
Other puerperal causes			16	2.57
Total...	...	24		3.85

III.—MATERNITY AND CHILD WELFARE.

The Council's powers and duties relating to maternity and child welfare have been delegated to the Health Committee. This Committee has appointed a Maternity and Child Welfare Sub-Committee. The Sub-Committee is responsible for the local maternity and child welfare service. Dr. M. G. Hughes, chief assistant medical officer for maternity and child welfare, supervises the work of this section, assisted by Dr. Greta Hartley and Dr. A. Alison Craig.

The local scheme continues to be one of co-operation between municipal and voluntary organisations. The Bristol Infant Welfare Association co-ordinates the work of the voluntary organisations providing maternity and child welfare services with those organised and maintained by the local authority. The grants to these voluntary organisations were revised for the new grant period which commenced on the 1st April, 1937. The local authority make a grant of £1258 to the Bristol Infant Welfare Association in respect of the voluntary centres provided by them, and £1,261 which is distributed direct to these centres.

Other voluntary organisations receiving grants under the Local Government Act, 1929, are two day nurseries which receive £925, and £2,537 to five homes for mothers and babies. The co-operation with the voluntary bodies continues to be of the most cordial character and contributes in no small measure to the successful running of the centres.

The voluntary workers at the centres provided by the local authority render a valuable service. Recently, owing to increased municipal centre sessions, a shortage of voluntary help was experienced. An appeal was made through the press and resulted in a large number of ladies coming forward.

The year 1937 was an important year in the maternity and child welfare service for the following reasons :—

- 1—the opening of the new Central Health Clinic and the Health Centres at Bedminster and Speedwell ;
- 2—the commencement of the scheme for the provision of a municipal domiciliary midwifery service ;
- 3—The decision to open day and night nurseries ;
- 4—the establishment of a scheme for the provision of mid-day meals to expectant and nursing mothers and children under five years of age ;
- 5—the consideration of the extension of the city's ante-natal service by the taking over of the routine ante-natal clinic held at the local voluntary hospitals ;
- 6—the consideration of a scheme for closer co-operation between the local authority and the general practitioner.

Vital statistics.

Observations on the statistics relating to live births and stillbirths in the section of this report dealing with vital statistics show that the local rates constitute in varying degrees improvement on the rates recorded nationally and by comparable large towns (see page 15). Compared with the previous year's figures, deaths under one year fell by 2·47 per 1,000 live births and deaths under one month

rose by 2·51 ; stillbirths rose by 0·65 per 1,000 total births, while deaths of mothers (all causes) rose by 0·75, and deaths (puerperal sepsis) fell by 0·18.

Infant mortality.

Rate per 1,000 live births.

	Bristol	England and Wales	Combined County Boroughs
1937	46	58	62
1936	48	59	63

During the year the deaths of 275 Bristol infants under one year were recorded, 15 less than the net deaths registered in 1936. The deaths consisted of 149 males and 126 females, of whom seven males and three females were born illegitimate. This number gives an infant mortality rate of 46 per 1,000 live births, a decline of 2.

The local rate is a considerable improvement on the infant mortality rates recorded for England and Wales (58) and for the combined county boroughs (62).

The principal causes of infant death in order of numerical importance were : prematurity (84), congenital malformations (55), pneumonia (39), injury at birth (14) and atelectasis (10). The order shows little variation. The group of diseases covered by such causes as prematurity, malformations and marasmus accounted for 51·6 per cent. of the total infant deaths followed by respiratory diseases 17·4 per cent., injury at birth 5·1 per cent., and atelectasis 3·6 per cent. There were nine deaths due to infectious disease and four from tuberculosis.

As in previous years, more than one half (64 per cent.) of the deaths of infants occurred under one month—a *neo-natal mortality rate* of 29·11 per 1,000 births, compared with 26·6 last year. Of these deaths in the first month, 31 per cent. occurred on the first day of life and 42 per cent. during the next six days. Approximately 75 per cent. of the neo-natal deaths were due to prematurity, accident or congenital defects.

Illegitimate live births numbered 191, and of these 5·2 per cent. died before reaching the age of one year, compared with 9·7 per cent. last year. These deaths represent an *illegitimate infant mortality rate* of 52·4, a decrease of 50·4 per 1,000 illegitimate live births over the rate in 1936. The legitimate infant mortality rate per 1,000 legitimate live births was 45·6.

Diarrhoea and enteritis (under two years).

Rate per 1,000 live births.

	Bristol	England and Wales	Combined County Boroughs
1937	1·8	5·8	7·9
1936	4·07	5·9	8·2

This disease, which formerly occupied a high position amongst causes of infant mortality was responsible in 1937 for 11 deaths of children under two years of age, 19 less than the previous year. This figure gives a *diarrhoeal mortality rate* per 1,000 live births of 1·8, which is less than one third of the national rate and less than one quarter of the combined county borough rate.

Maternal mortality.

	Rate per 1,000 live births		Rate per 1,000 total births	
	Puerperal sepsis	All maternal causes	Puerperal sepsis	All maternal causes
Bristol	1·33	3·99	1·28	3·85
England & Wales	0·97	3·23	0·94	3·11

During the year, 24 mothers lost their lives from causes directly connected with childbirth, five more than in 1936. This figure gives a *maternal mortality rate* of 3·85 per 1,000 total births (i.e., live and still).

One third of the deaths were due to puerperal sepsis. The medical officers of the maternity and child welfare section continued their investigations into these maternal deaths. Each case was specially inquired into and detailed reports forwarded to the Ministry of Health. The actual causes of all the deaths are shown in the table on p. 41 with age groups and the number which occurred in institutions.

Notification of puerperal fever and puerperal pyrexia.

Rate per 1,000 total births	Puerperal fever and puerperal pyrexia
Bristol	7·21
England and Wales	13·93
Combined County Boroughs ...	17·59

Under the provisions of the Public Health Act, 1936, the condition previously notified as puerperal fever is, from the 1st October, 1937, notified as puerperal pyrexia.

Six cases of puerperal fever and 39 of puerperal pyrexia were notified during the year compared with ten and 42 last year. The combined figure (45) gives an attack rate of 7·21 per 1,000 total births, which is much lower than the corresponding rate for England and Wales and the combined county boroughs. There were eight deaths from puerperal sepsis as against seven last year. Twenty four of the puerperal cases developed in hospital and eight were removed there after confinement at home.

Notifications of ophthalmia neonatorum.

	Number	Rate per 1,000 live births.
1937	30	4·9
1936	14	2·4

The number of cases reported was more than double the previous year's figure and the attack rate of 4·9 per 1,000 live births is 2·5 more than in 1936. Twenty-five cases recovered, two children became blind in one eye, one child is still under treatment and two removed from district. In these two latter cases notification was sent to the authorities of the districts concerned to ensure following-up. The effective home supervision of such cases by the health visitors, who also dealt in a similar manner with 303 less serious eye cases, is therefore again demonstrated.

Notification of births.

	Births		Percentage attended.		
	Live	Still	By doctor	By midwife	In Institution
1937	6,655	276	12·75	30·75	56·5
1936	6,490	252	13·9	31·2	54·9

There was an increase of 189 in the number of births notified, the total being 6,931, including 276 stillbirths. Over one half of these confinements (56·5 per cent.) took place in institutions.

Midwifery and Maternity and Child Welfare Services.

Midwifery scheme.

In my last report I referred to the scheme which had been formulated under the Midwives Act 1936 for the establishment of a municipal domiciliary service. The scheme has been approved by the Minister of Health and provides for the employment of eleven district midwives. In addition, certain areas of the city have been allocated to the Bristol General Hospital and the Bristol Royal Infirmary. These voluntary hospitals receive a grant of £850 and £450 respectively. A district has also been allocated to the Southmead Municipal General Hospital. The fees charged for the services of the municipal midwives (including the hospitals) are :—

for services as midwife : £2 2s. 0d. for first confinement
£1 12s. 0d. „ subsequent „
„ „ maternity
nurse : £1 15s. 0d. „ first confinement.
£1 5s. 0d. „ subsequent „

The eleven district midwives directly appointed by the local authority are under the supervision of the inspector of midwives. As far as possible in the appointments made, preference was given to local private practising midwives, and of the eleven appointed, nine were formerly in private practice in the city. Five private midwives availed themselves of the opportunity given under the Act to surrender their certificates and claim compensation.

No order has as yet been made by the Minister of Health prohibiting the attendance of unqualified persons on women in childbirth in Bristol.

The Bristol scheme is subject to review after twelve months' experience.

Preliminary steps have been taken in regard to an arrangement for closer co-operation between the general practitioner and the midwifery services provided by the local authority. This is a matter which has received serious consideration and it is hoped that as a result of the discussion now taking place a scheme will be formed which will bring the general practitioner into closer touch with the maternity and child welfare department than at present.

Following the receipt of the circular of the Ministry of Health of 7th May, 1937, dealing with steps that should be taken by local authorities to combat maternal mortality, the Committee fully reviewed its maternity and child welfare scheme. With the exception of the recommendations relating to emergency units and home helps, all the services suggested by the Minister of Health are in operation or are in course of being dealt with in the city. In regard to emergency units, this matter is still under consideration. The question of home helps has been before the Committee on several occasions, but so far no arrangements have been made.

Practising midwives.

The number of practising midwives at the end of the year was 100, of whom 51 were attached to institutions. This included the midwives appointed under the Midwives Act, 1936. The number of district midwives in Bristol is considered to be sufficient. As in previous years each midwife was visited at her house, at least four times, when the usual inspection of register, bags, etc., was carried out, and in only one instance was it necessary to make an unsatisfactory report. Three special enquiries were made into the practice of midwives and 75 of their cases were specially visited by the inspector. Midwives continue to take full advantage of the arrangements for sending for medical help at confinement and claims from medical practitioners rose by 74 in 1937.

Claims for compensation for loss of cases referred to an institution on account of some abnormality fell from 25 to 13.

Further statistical data relating to midwifery will be found on page 53.

Provision of mid-day meals.

In April, 1937, the Committee inaugurated a scheme for the provision of mid-day meals to expectant and nursing mothers and to children under five years of age. The scheme was started in the district of Knowle West, a large Corporation housing estate. The scheme was extended later in October to two other districts of the city and to a fourth in December. Eligibility for the meals is on a certificate of a medical officer of an ante-natal or infant welfare centre, and the meals are granted normally for a period of two months. An arrangement exists between the Health and Education Committees whereby the latter Committee supply the meals from their Central Kitchen. The internal organisation of the feeding centres is carried out by health visitors, and to each centre there is attached a band of voluntary workers who generally assist in the serving, etc., of the meals. 4,287 meals were supplied to 197 expectant and nursing mothers and 4,950 to 206 children under five.

Central Health Clinic and Health Centres.

The establishment of the Central Health Clinic and the opening of two new Health Centres (at Bedminster and at Speedwell) is commented on in pages 24/25 with a description of the services provided. As far as the maternity and child welfare service is concerned, the provision of these modern buildings has enabled the service to be carried out under much better conditions and has placed at the disposal of the mothers and babies in the city increased facilities in regard to their welfare. It has also enabled branches of the services to be developed, which was not possible hitherto, owing to the unsatisfactory accommodation available.

Applications for maternity assistance.

1936	Forms of assistance granted.	1937
1,081	Maternity beds	1,015
154	Midwife's fee	154
70	Southmead Hospital district nurse	138
10	Consultant obstetrician	7
2,763	Milk grants	3,117

There was again a large number of applications for admission to hospital for confinement and of these 985 were admitted to Southmead Hospital. Of the 3,640 mothers confined in institutions in 1937, 1,015 received grants towards the cost of the maternity bed. Applications for assistance towards payment of the midwife's fee numbered 154, the same as last year, while other grants included the services of a Southmead Hospital nurse in 138 cases.

Other forms of confinement assistance include the selling of sterilised maternity outfits at cost price and loaning of maternity bags in necessitous cases. During the year, 3,117 milk grants have been made—to expectant mothers, 507; to nursing mothers, 858; to children under three years, 1,913; and to children between three and five years, 151; at a total cost of £1,240 15s. 4½d.

Ante-natal and post-natal services.

At the large voluntary hospitals ante-natal clinics organised by the hospitals are held. A scheme has been evolved whereby the Health Committee shall take over the routine ante-natal work now done at the voluntary hospitals and that consultative clinics only shall be held at the hospitals. The proposal is that each patient shall be referred at least once during pregnancy to the consultative clinic at the voluntary hospital she has booked for her confinement. The scheme at the present time is receiving the consideration of the voluntary hospitals.

One additional post-natal clinic was established during the year.

Details of the attendances at clinics and centres will be found on page 53.

Other maternal services.

The services of consultants in cases of difficult labour and puerperal fever are at the disposal of any doctor when required, and an arrangement has been made with the Bristol General Hospital for the admission of cases of complicated labour, if necessary. Seven cases were referred to consultants during 1937, three less than in 1936.

Arrangements have been made for the pathological examination in the department of preventive medicine of material submitted by doctors.

Unmarried mothers.

1936	CASES ASSISTED	1937
126	Applications received	157
22	Remaining over from last year	22
69	Admitted to Southmead Hospital	69
17	Confined at mother and baby homes	24
	Other assistance given in confinement or not	
34	needed	52
1	Transferred to another area	—
4	Applications withdrawn	5
22	Arrangements not completed	29

As a matter of policy in regard to the placing of an illegitimate child under the Infant Life Protection Act, the Health Committee are of opinion that where it is desirable in the interest of the child for an illegitimate child to be legally adopted into an approved family, and subject to the mother's consent being obtained, the welfare officer should make arrangements accordingly.

The welfare work in connection with unmarried mothers is carried out in Bristol by Mrs. N. H. Stott, the welfare officer to the Public Assistance Committee and the Health Committee, who reports as follows :—

During the year *applications* from 157 girls and women have been received, either for assistance relating to the birth of an illegitimate child, or for help to enable the applicant to maintain an illegitimate child. 125 were in respect of a 1st child ; 25 (2nd) ; 4 (3rd) ; 1 (4th); and three were cases where the applicant had lived for a considerable time with the father of her child (or children). Arrangements had also to be made for 22 who made application in 1936 and who were awaiting confinement, making a total of 179. The results were as follows : 65 confined at Southmead Hospital and four admitted immediately after birth of child ; seven abortions or stillbirths ; 24 confined at mother and baby homes ; five married before birth of child ; 40 assistance in confinement not sought and five applications withdrawn. In 29 cases the child is not yet born.

In most cases to-day applicants ask for admission to hospital for confinement, and a small proportion only will go to a mother and baby home where the girl must remain for a period of six months or longer. While it is recognised that this period is of great value, for the welfare of the child as well as the mother, many more would avail themselves of the benefit of a stay in a home if this regulation as to the length of stay was varied to suit the individual need.

There is constant difficulty in arranging for mother and child when fit for discharge from hospital, normally at the end of a fortnight, as in many instances a welcome home awaits only the mother, and there is no one willing or able to pay for the child's maintenance even if a home can be found.

If a definite length of stay in a home was not insisted upon this difficulty would be greatly reduced—mother and child would remain together for a longer period, and it is thought that in most cases the average stay of mother and child in a home would be four to six months.

In support of this view it may be stated that in 1936, when no definite rule concerning length of stay was enforced, 18 mothers with babies were admitted to the Diocesan Refuge, but in 1937 when girls with a child were asked to consent to a stay of six months, only four cases were admitted.

During the year 58 girls were admitted to homes for varying periods and reasons.

An analysis of the affiliation work in regard to the 236 cases dealt with shows :—33 affiliation orders ; two orders dismissed ; 41 agreements ; three married women not entitled to summons ; eight marriages to putative fathers. The putative father was not known in two cases ; not traced three ; gone abroad nine ; died two. In 28 cases there was on corroboration ; nine removed from the area ; three applications were withdrawn and four refused to take proceedings. In three cases the child was adopted. There were also 14 abortions, stillbirths or death of child and one case was certified mentally deficient. 71 cases remain to be completed.

To receive and disburse payments on affiliation and maintenance orders whether from Court or received direct entails much work but it is of great assistance to the individual and valuable means of keeping in close touch with many who have been assisted to obtain orders. A total of £5,881 1s. 4d. was dealt with during the year.

Married women's cases have become more intricate since the passing of the Summary Procedure (Domestic Proceedings) Act, 1937. The welfare officer now enquire into all cases of women who have made application for public assistance, or being in need of public assistance desire to apply to the Court for maintenance or separation orders, as the probation officers do in other cases.

During 1937, 107 married women were referred to this office. In 40 cases maintenance orders were obtained and two agreements arranged. In four cases the parties were reconciled and in eight the order was varied. Three applications to Court were dismissed.

Regular assistance is given where application is made for arrears on maintenance and affiliation orders.

Voluntary homes have again given sympathetic consideration to applications for admission of babies where only a small sum could be paid towards maintenance. In 28 such cases admission has been arranged and during the year 20 babies were placed for temporary periods at the Bristol Day and Night Nursery.

Five mothers have received weekly grants to assist them with payments to foster mothers.

Institutional provision for mothers and children.

The institutional accommodation provided for mothers and children is as follows :—

Bed accommodation	Municipal	Voluntary
Maternity	44	169
Children (general)	42	152
Children (orthopaedic, tubercular, heart)	96	68
Children's Home	196 P.A.C.	—
Residential Nursery and Babies' Home	82 Health	55

Other forms of institutional provision exist for the benefit of women, including unmarried mothers, such as the Salvation Army Home and Grove House Home, where girls are taken pending, during and after confinement, and at the Diocesan Refuge and Elm House pending and after confinement.

Arrangements for the reception and maintenance of infants under five years of age remain as reported last year.

The accommodation at the Downend Babies' Homes provides 35 beds for children under three years and 25 beds for children between three and five years. The medical supervision of all children in the Downend Homes, including those over five years continues to be carried out by the medical officers of the maternity and child welfare service.

There is great scarcity of institution accommodation where infants and children can be left whilst the mother is away in hospital or ill. This is a matter which deserves serious consideration.

Day and night nurseries.

Towards the end of the year, the Executive Committee of the Bristol Day and Night Nursery, Ashley Road, intimated their intention to close down this nursery at the end of the year. This nursery which had been in existence for many years provided a much needed service in the city, and the closing down of the nursery was a matter which gave rise to serious consideration by the Maternity and Child Welfare Sub-Committee. It was decided that a residential nursery was essential, and for this purpose the Committee decided to adapt a building at Brunswick Square. The accommodation afforded by this building will be for 22 babies.

The Brunswick Square premises are limited to residential babies only, and to serve the urgent need of day babies, it was decided to use part of the Central Health Clinic.

The whole question of the day nursery accommodation in Bristol is being reviewed. There is real need for such accommodation for babies whose mothers have to go into hospital or who for other reasons are unable to look after them.

Nursery schools and classes.

The nursery school and class programme was further developed during the year. At the present time the accommodation provided consists of three nursery schools, eleven nursery classes and nine reception classes.

Included in the above is the nursery centre at Ilminster Avenue, Knowle, which was opened in October, 1936. This centre, which provides accommodation for 80 children between ages of two and five, is part of the public health scheme, and is under the control and supervision of the Health Committee as part of its maternity and child welfare service.

A joint arrangement between the Health and Education Committees provides for the medical and nursing supervision of the children at the nursery schools and classes by the staff of the maternity and child welfare section.

Health visitors.

The increasing call on the health visiting staff by their attendance at nursery schools and classes together with the growing number of sessions held at ante-natal and special clinics, necessitated the appointment of an additional health visitor, making the total employed 26. The visits paid by the health visiting staff are detailed on page .

The training course for health visitors, which is held by the Health Committee in conjunction with the University of Bristol, continues to be a successful scheme. Of the 13 pupils taking the 1937/38 course, 11 were successful in passing the examination of the Royal Sanitary Institute.

Provision was made in the new central health clinic and the health centres for the accommodation of the outdoor nursing staff allocated to the areas of the city served by these centres. Prior to the opening in 1937 of the central health clinic and the health centres at Bedminster and Speedwell, part of the health visiting and school nursing staff was already accommodated at the joint maternity and child welfare and school clinics at Portway and Southmead. The decentralisation of the nursing staff was continued in 1937 with the opening of the new centres. At each of the following centres, viz. : Central, Speedwell, Bedminster and Portway a clinic sister has been appointed. This officer is responsible for the internal clinic organisation of the centre and is engaged wholly on duties in the centre. She is responsible also for the supervision of the health visitors and school nurses attached to the centre.

At present the health visiting staff is allocated as follows :

Centre.				Clinic sister.	Health Visitors
Central	...	...	...	1	12
Bedminster	...	...	...	1	5
Portway	...	...	...	1	2
Southmead	...	...	...	—	3
Speedwell	...	...	...	1	3

In addition to the above staff, there is a principal sister and a superintendent health visitor.

The process of allocating the nursing staff to certain areas of the city will be continued with the establishment of the proposed health centre at Brislington.

Child life protection.

1936		1937
170	Children under supervision at end of year ...	146
146	Persons registered as receiving children ...	139
2	Registrations refused or withdrawn ...	—
13	Children removed from register on reaching age limit ...	4
60	Children transferred to relatives ...	34
15	Children legally adopted... ..	13
1,162	Total visits	989

The visiting of infants and young children under nine years of age who are nursed or looked after for reward, is carried out by the inspector of midwives and nursing homes.

Orthopaedic treatment

The municipal scheme for orthopaedic treatment includes the examination of children by specialists (at clinics provided by the school medical service), artificial sunlight treatment, and institutional treatment when necessary at Southmead and Frenchay Park Hospitals. In addition, orthopaedic treatment is carried out at the voluntary institutions.

The number of children under five years of age referred to the school clinics for crippling defects (rickets, etc.) amounted to 143 and of these eleven have been admitted to hospital for treatment.

Other services.*Dental treatment.*

Dental treatment for expectant and nursing mothers and children up to the age of five years continues to be carried out at the school clinics and at Southmead Hospital. Details of the types of cases and treatment given are contained in the dental report published in the appendix. The cost of dentures supplied amounted to £479 4s. 4d. of which £132 was recovered from the patients.

Diphtheria immunisation.

During the year, 49 children were immunised against diphtheria at the outlying infant welfare centres.

Artificial sunlight treatment.

During 1937, the maternity and child welfare department at Brunswick Square and the Central Health Clinic treated 486 cases.

Since May 1934, all orthopaedic cases ascertained through the maternity and child welfare service, at welfare centres, clinics, or by health visitor visitation, have been referred immediately to the orthopaedic surgeon for his examination. Last year, 143 cases were so referred.

1936	Maternity and Child Welfare Statistics	1937
108	Midwives practising in area at end of year ...	100
1	Bona-fide midwives registered	1
48	Midwives in private practice	49
60	Midwives attached to institutions	51
1,064	C.M.B. Forms A—medical help viz. :—	1,107
4	threatened abortion	4
5	abortion	6
19	albuminuria	12
15	prematurity	8
33	ante-partum haemorrhage	29
127	delayed labour	94
22	complicated labour	17
313	ruptured perineum	364
15	adherent placenta	35
16	post-partum haemorrhage	26
44	raised temperature	47
24	feebleness of child	23
170	discharging eyes	199
17	rash	21
240	other causes	222
13	B—death	26
63	C—stillbirth	53
5	D—laying out the dead	8
55	E—liability of infection... ..	49
41	F—artificial feeding	36
25	Midwives' claims for compensation	13
292	Fees claimed by medical practitioners	366
16,220	Attendances at municipal ante-natal clinics ...	19,013
2,631	New patients	3,240
20.6	Average per session	22.9
67,827	Attendances at infant welfare centres	63,825
34,910	Children under one year	32,939
32,917	Children between one and five years	30,886
4,799	Attendances at artificial sunlight clinic	5,360
3,370	„ mothercraft clinic	1,619
590	„ minor ailment clinics	651
4,094	„ dental clinics	4,023
	HEALTH VISITORS VISITS TO :—	
5,493	Notified births—primary	5,435
15,273	under 1	14,553
60,100	1 to 5	49,401
1,311	Eye cases	1,424
39	Ophthalmia neonatorum	137
—	Pemphigus neonatorum	4
3	Summer diarrhoea	13
1,291	Ante-natal	1,440
121	Neo-natal deaths	132
3,302	Other special visits	3,413
19,223	blank visits	16,592
3,078	Tuberculosis	2,768
687	blank visits	668
1,235	Special reports	1,129
2,932	Municipal clinic attendances	2,866
529	Schools for mothers attendances	580
335	Lectures given	199
	VISITS BY INSPECTOR OF MIDWIVES :—	
273	Midwives, routine inspections	198
68	Stillbirths, special visits	17
229	Mental deficiency	456
201	Interviews	239
232	blank visits	175

IV.—SANITARY CIRCUMSTANCES AND HOUSING.

(a) **Sanitary circumstances.**

Water—drainage and sewerage—rivers and streams—closet accommodation—refuse collection and disposal—Shops Acts—smoke abatement—swimming baths and pools—eradication of bed bugs—cleansing and disinfection—animal or insect pests—sanitation in schools—premises and occupations controlled by byelaws or regulations—Rag Flock Acts—cemeteries—table of sanitary inspection, notices, etc.,—factory and workshop table.

(b) **Housing.**

Prevention and abatement of overcrowding—five years' programme—clearance orders—repair procedure—houses represented in clearance areas—statement of housing proceedings (circular no. 1,561).

A.—SANITARY CIRCUMSTANCES.

The chief sanitary inspector (Mr. J. A. Robinson, F.S.I.A.) has furnished the following report on the work of his department in accordance with article 27 of the Sanitary Officers (outside London) Regulations, 1935.

The table on page 70 summarises the work accomplished during the year under review. 2,780 complaints were received and altogether 48,045 visits were made by the staff for all purposes resulting in the service of 974 notices of an informal character in respect of Public Health Act nuisances. In addition, 107 formal notices and orders were served. These notices and orders affected the abatement of insanitary conditions including the relaying or repair of 2,050 drains; the provision of 765 flushing appliances to waterclosets where none existed previously and the replacement of 741 obsolete closets by modern pans; washing conveniences were installed in 187 houses and facilities for the proper storage, preparation and cooking of food made satisfactory in 350 houses; new and additional water supplies were provided for six houses and 1,151 roofs repaired.

1,517 houses were inspected for action under the appropriate sections of the Housing Act 1936. 505 houses were satisfactorily repaired (158 after informal action, 229 after formal action, 118 undertakings to repair complied with and four demolition orders determined).

1,005 houses were dealt with by clearance order procedure.

Court proceedings were taken during the year to enforce the abatement of nuisances in four instances.

Water.

I am indebted to the general manager of the Bristol Waterworks Company for the following statement—

“ The new reservoir at Cheddar, capacity 1,290,000,000 gallons, was completed and brought into use during the year. The Company's reservoirs are at present full or over-flowing, and there is no anxiety as to the sufficiency of the supply in 1938.

Every step is taken by the Company as regards filtration and sterilisation to maintain the usual high standard of purity of the water supplied to the district, which is shown by frequent chemical and bacteriological analyses. A constant supply to the district has been afforded throughout the year.

During the year 1937 the Company's inspectors have made enquiries in all cases where new houses have become occupied as to the previous addresses of the occupiers, and the following information has been obtained :—

Removed from houses closed under demolition orders	108
Just married 	546
From houses in Bristol 	1,099
From rooms or flats in Bristol 	536
From outside districts 	362*

* (*representing 1,096 persons*).''

Regular analyses of the city water supply are carried out at the department of preventive medicine, and the results of these examinations will be found in the report of the department (see appendix). Samples are taken fortnightly from the Sherbourne spring water at Knowle for chemical analysis, and samples from the tap at Canynge Hall also every fortnight. Similarly, bacteriological examination of samples taken from the Knowle spring water is carried out every fortnight and samples taken at Canynge Hall are examined weekly.

1936	SUMMARY	1937
20½ miles	Length of new water mains laid	22½ miles
5,373,548,000	Gallons supplied to district ...	5,541,504,000
102,353	Dwelling houses connected to mains	105,068
25·13 galls	Average supply for domestic purposes per head	25·49 galls
9	Notices served to secure proper water supply	7
—	Polluted wells closed	14
37	Water analyses	34

Drainage and Sewerage.

In addition to general maintenance and relaying of existing sewers, the following various works of sewerage have been carried out during the year, mostly necessitated by the increasing development of the areas concerned :—

Reconstruction of Bloomfield Road storm water relief.

Construction of Winterstoke Road storm water culvert.

Construction of storm overflow relief near Bears Bridge.

Construction of storm relief at Springleaze.

Construction of foul water sewer at Oldbury Court.

Construction of storm relief sewer at Greenway Bush Lane.

Reconstruction of storm water sewer, Lockleaze Road—Keys Avenue area. (this work is proceeding).

Construction of storm water culvert from Hengrove Lane to Chessington Estate.

The experiment to obviate the effects of offensive matter entering the River Avon by the chlorination of sewage, commenced in September, 1934, is still continuing at all outfalls of the main sewers.

The main drainage report submitted to the Council at their meeting on the 8th February, 1938, set forth the requirements for the main drainage of the city. Two major schemes, one for a northern intercepting sewer and the other for an eastern storm water intercepting sewer, were included in detail. The schemes were approved at an estimated cost of £1,650,000.

1936		1937
3¼ miles	Length of new sewers laid ...	1 mile
2,889,000	Street watering (gallons) ...	2,598,000

Rivers and streams.

No special action in regard to river pollution was found necessary apart from that mentioned in the previous paragraph.

Closet accommodation.

By steady and persistent action the number of closets without flushing appliances remaining in the city continue to be reduced annually. Flushing appliances were introduced in respect of 765 such closets during 1937.

Refuse collection and disposal.

No alteration to the system of this work was made in 1937. The substitution of mechanical for horse-transport was increased, which method continues to give satisfactory results.

1936		1937
117,554 tons 18,931	House and trade refuse collected Dustbins on hire	119,321 tons 17,876

Shops Acts.

1936	Statistics.	1937
3,237	No. of shops visited	3,276
1,995	No. of re-visits	2,995
1,690	No. of infringements detected ...	1,901
73	No. of verbal warnings	305
22	No. of warning letters	13
31	No. of prosecutions	30
30	No. of convictions	30
8	Cases pending	8
NUMBER OF SHOPS AND WAREHOUSES TO WHICH THE ACTS APPLY :—		
Retail shops	9,000–10,000	
Wholesale shops and warehouses ...	approx. 4,000	

The sanitary inspectors are responsible for these Acts in so far as they relate to sanitation, heating, lighting and ventilation, etc. The summary table (p. 70) indicates the improvements effected in shops under the provisions of the Acts.

With regard to general administration the shops acts inspector, Mr. C. L. Bryant, reports as follows :—

Routine inspection work.

During the year, 3,276 shops were visited and 2,995 revisits made. The large percentage of revisits is due to so many shopkeepers failing to exhibit the statutory notices.

Of the 1,901 infringements recorded :—

1,664 were failures to exhibit the various notices.

- 122 ,, infringements of assistants' provisions (half-holiday, hours of young persons, etc.).
- 82 ,, infringements relating to sanitation, heating, and ventilation which were referred to the chief sanitary inspector.
- 33 ,, infringements relating to lighting, washing facilities and facilities for taking meals.

In many other cases minor improvements in the facilities afforded assistants have been effected.

Additional legislation affecting shops.

The past year has seen the introduction of further legislation and the following is a brief summary of the main provisions of the new Acts :—

(1) Retail Meat Dealers' Shops (Sunday Closing) Act, 1936.

This Act which came into force on 1st January, 1937, prohibits the sale, dispatch or delivery on Sundays of butcher's meat at shops, and also at stalls or similar places. An exception permits the dispatch or delivery of meat on Christmas Eve or Christmas Day when either day falls on Sunday. The Act contains special provisions for Jewish butchers.

(2) Shops Act, 1936 (Lending Libraries).

Came into operation on 1st January, 1937, and provides for the application of all the Shops Acts to premises where the business of lending books or periodicals is carried on for the purpose of gain.

Prior to the advent of the Act the business of a lending library was outside the scope of the Shops Acts.

(3) Shops (Sunday Trading Restriction) Act, 1936.

The general effect of this Act which applies to retail shops and also to street trading and which came into force on 1st May, 1937, is—

- (a) to require the closing of shops on Sunday subject to certain exemptions designed to meet the reasonable needs of the public, and
- (b) to provide for compensatory holidays for persons employed about the business of shops which are permitted to open.

Wholly exempted transactions :—

The following list includes most of the transactions permitted on Sunday :—

The sale of intoxicating liquors, meals or refreshments whether or not for consumption at the shop at which they are sold, but excluding the sale of fried fish and chips at a fried fish and chip shop, newly cooked provisions and cooked or partly cooked tripe, table waters, sweets, chocolates, ice cream, flowers, fruit and vegetables other than tinned or bottled, fresh milk and cream, medicines and medical and surgical appliances (by chemists), aircraft, motor and

cycle supplies or accessories, tobacco and smokers' requisites, newspapers, periodicals and magazines, requisites for any game or sport at any premises or place where that game or sport is played or carried on (but not at a shop) post office business.

Temporarily exempted transactions :—

For a period of nine months (expiring 1st February, 1938) the Act permits the sale on Sundays of—

Bread and flour confectionery,
Fish, including shell fish, and
Groceries and other provisions.

After the 1st February, 1938 these transactions, except in so far as they are included amongst the wholly exempted transactions (e.g., the sale of meals and refreshments) will be prohibited on Sunday unless exempted by the local authority under a partial exemption order. No partial exemption order has been made in Bristol.

Special provisions for persons observing the Jewish Sabbath :—

The Act contains provisions permitting persons observing the Jewish Sabbath to open their shops until 2 p.m. on Sunday (for non-exempted transactions), provided they close for the whole of Saturday and comply with certain other provisions.

One shopkeeper has applied for and been granted registration under these provisions.

Compensatory holidays for persons employed on Sunday :—

(a) a person employed for more than four hours on a Sunday must receive a whole holiday on a weekday, and must not be employed in a shop on more than two other Sundays in the same month.

(b) a person employed for four hours or less on a Sunday must receive a half-holiday on a weekday.

If the person employed is entitled to a statutory weekly half-holiday under the Shops Acts, 1912 or 1934, the compensatory holiday in respect of Sunday work must be in addition to the statutory weekly half-holiday.

The effect of this is to reduce the shop assistants working week to $5\frac{1}{2}$ days.

Certain classes of employees are exempt from the provisions regarding compensatory holiday.

Shops (Hours of Closing) Act, 1928.

Frequent evening observation has been carried out to see that the Closing Act and various Evening Closing Orders were being obeyed. Useful assistance has been afforded in this respect by the police who report infringements coming to their notice.

The following classes of shops have Evening Closing Orders fixing an earlier closing hour than the general closing hours laid down in the Act :—

Tailors' drapers, etc.	Butchers
Chemists, druggists, etc.	Jewellers, etc.
Wallpaper dealers	Hairdressers and barbers
Boot and shoe retailers (Bedminster).	

Sunday inspection work and observation.

The addition of the Retail Meat Dealers' Shops (Sunday Closing) Act, and the Shops (Sunday Trading Restriction) Act, has greatly increased the scope and responsibility of the inspectors' work.

It has been necessary to visit shops open on Sundays to explain the Acts, and to see that the provisions regarding the employment of assistants on Sundays are being complied with.

The Sunday Trading Restriction Act contains so many exemptions that it has not resulted in many shops closing on Sunday. The prohibition of the sale of bread and flour confectionery and groceries and provisions after 1st Feb., 1938, will result in a certain number of shops (mainly grocers) closing on Sunday, but the very great majority of the mixed or general class of shops will still remain open for the sale of the wholly exempted goods, i.e., sweets, chocolates, table waters, ice cream, newly cooked provisions, green-grocery, tobacco and cigarettes, newspapers, etc. Many of these mixed shops would prefer to close but cannot afford to do so voluntarily while others could remain open to reap the benefit.

The Act will prove difficult to enforce as it intensifies the problem of the mixed shop which is in the position of being able to sell certain commodities while having to refuse others. The general impression gathered from visiting these shops is that an Act which permitted them to open for three or four hours only on Sunday mornings without restrictions would have been welcomed.

During the year your inspectors have spent 550 hours on evening or Sunday duty, and it is opportune here to point out that evening and Sunday duty very greatly reduces the time available for routine inspection work which is carried out during the normal working hours.

Exemption in respect of retail trade at Exhibitions.

Exemption under section 5 of the Shops (Hours of Closing) Act, 1928, has been granted in respect of six exhibitions during the year. Such exemption permits the retail trade at the exhibition to be carried on until 10 p.m., subject to stallholders complying with the regulations regarding the employment of assistants, hours of young persons, etc.

Legal proceedings.

Legal proceedings were authorised by the Committee in 30 cases with the following results :—

In 11 cases defendants were fined 5/-				
5	„	„	„	7/6
8	„	„	„	10/-
2	„	„	„	15/-
3	„	„	„	20/-
1	„	„	„	40/-

Warnings.

Over 300 warnings (verbal and written) to comply with the Acts in future have been given during the year mostly in respect of closing infringements.

Application for Evening Closing Order.

An application was received from a body of traders in the central district of the city asking the Health Committee to make an evening closing order under the Shops Act, 1912, for the following times :—

Monday	...	7 p.m.	Tuesday	...	7 p.m.
Wednesday	...	1 p.m.	Thursday	...	7 p.m.
Friday	...	7.30 p.m.	Saturday	...	8 p.m.

Alternative half-holiday, Saturday 1 p.m.

The Committee decided to proceed with the making of an Order for those classes of shops where two-thirds of the occupiers are in favour.

Smoke abatement.

During the year 19 observations for smoke were taken and in six instances the emission of smoke was in excess of that permitted by the byelaws made under section 2 of the Public Health (Smoke Abatement) Act, 1926. The firms concerned were immediately informed and advice given to the employees responsible. The nuisances arising from the smoke emissions referred to were abated without statutory action.

Two deposit gauges for measuring atmospheric pollution are in use in the city—one at the Clifton Zoological Gardens and one in the centre of the city. The samples are collected each month and the rainfall and deposits are measured and both subjected to analysis. The records of such measurements and atmospheric pollution will be found in the report by the city analyst.

Swimming baths and pools.

The report for 1935 contained a scheme for the comprehensive survey of all the swimming baths and pools open to the public in Bristol, viz. :—

- 12 swimming baths owned by the Corporation ;
- 3 swimming pools privately owned.

Two new swimming baths, one in the Knowle district and one at Speedwell were opened to the public during 1937.

Eradication of bed bugs.

119 council houses, occupied by families whose furniture, etc., was subjected to cyanide fumigation before removal from houses known to be vermin infested, were submitted to a rigorous examination as regards the presence of bed bugs. One house revealed very slight infestation, principally confined to bedsteads. The occupants were advised as to the appropriate methods to eradicate the vermin. No other instances of bug infestation were found in council houses. Re-visits were made in 38 instances and in all cases the houses were found to be clean.

Other houses found to be bug-infested numbered 185, and appropriate methods were taken to have them disinfested by the owners of the properties concerned.

The methods employed for freeing infested houses were reported in 1936, as were the methods employed to ensure that vermin is not

conveyed to new houses in the furniture, etc., from houses inspected for the purpose of clearance procedure.

Cleansing and disinfection.

Accommodation is provided at the central disinfecting station, St. Philip's Marsh, for the bathing and disinfection of verminous persons of both sexes, and their belongings, and during the year 59 men and 32 women were dealt with. Children of school age receive attention at the school clinics.

The staff, equipment and plant at the central disinfecting station is as stated in previous reports. The number of disinfections last year of premises and articles, and articles destroyed, following exposure to infection, are given below :—

1936		1937
4,009	Premises disinfected	3,931
87,094	Articles „	76,314
2,056	Articles destroyed	1,588

Animal or insect pests.

No circumstances occurred during 1937 calling for special comment.

Rats and Mice (Destruction) Act, 1919.

The services provided by the Council for the suppression of rats and mice were actively continued by the staff of four rat catchers employed in the city and port under the direction of the chief sanitary inspector. The figures relating to rats destroyed on ships, quays, wharves, refuse tips, in the vicinity of Avonmouth, Bristol, or Portishead docks will be found in the report of the port medical officer of health. The work carried out in the city during 1937 was as follows :—

	Baits		Traps set.	Total no. of rats destroyed by trapping and fumigation	No. of rats examined at University laboratory (other than those caught on ships and docks)
	Laid	taken (approximate number)			
Generally in the city	110,673	56,116	2,424	1,943 and 203 mice	120
In public sewers* (undertaken by the city engineer's department) ...	35,509	24,316	—	—	—
Total ...	146,182	80,422	2,424	1,943 & 203 mice	120

* The public sewers were baited in March and July. In March circumstances were unfavourable, and in July the effectiveness of baiting was negated by heavy floods.

During National Rat Week (1st to 6th November, 1937) the city engineer caused 16,253 baits to be laid in the city sewers (approximately 11,783 of which were taken); and in the city, 2,010 baits were laid (approximately 900 of which were taken); and 12 rat traps were set, which resulted in 24 rats being caught.

The attention of the public was drawn to the importance of rat week by articles in the local press and as a result specific enquiries were made and advice and assistance given by the department.

Leaflets giving information as to the best methods of destroying rats and mice, etc., are available to the general public.

Schools.

The medical officer of health is also the school medical officer and issues a separate report which deals with the health of the scholars in the elementary school departments, special schools, nursery schools, secondary schools and junior instruction centres.

Some 53,000 children are under medical supervision during their school career at inspection and treatment clinics.

Premises and occupations controlled by bye-laws or regulations.

Houses-let-in-lodgings.

Bye-laws are in force in the city which incorporate the provisions of sections 6 and 7 of the Housing Act, 1925. At the end of 1937 258 properties had been registered under these revised byelaws.

Common lodging houses.

The Public Health Act, 1936, which came into operation on the 1st October, 1937, gives additional powers to local authorities in respect of the control of common lodging houses. In section 235 a legal definition as to what constitutes a common lodging house is given for the first time, as follows :—

‘ the expression ‘common lodging house’ means a house (other than a public assistance institution) provided for the purpose of accommodating by night poor persons, not being members of the same family, who resort thereto and are allowed to occupy one common room for the purpose of sleeping or eating, and includes, where part only of a house is so used, the part so used.’

Section 238 of the Act contains the provisions relating to the registration of a person as a keeper of a common lodging house, and the local authority may refuse to register or renew a registration if they are satisfied that (*inter alia*)—

- (ii) the premises are not suitable for use as a common lodging house, or are not as regards sanitation and water supply and in other respects including means of escape in case of fire suitably equipped for use as such, or
- (iii) the use of the premises as a common lodging house is likely to occasion inconvenience or annoyance to persons residing in the neighbourhood.

In 1934 the Health Committee adopted a new standard for common lodging houses as follows :—

1. The building to conform to accepted standards for dwelling houses.
2. (a) Minimum of 40 sq. ft. of floor space for each lodger.
 (b) Provision of an adequate day room.
 (c) Sufficiency of water supply.
 (d) Sufficiency of sanitary conveniences.
 (e) Sufficiency of cooking facilities.
 (f) Facilities for washing clothes.
 (g) Means of escape in case of fire.

In consequence of these additional powers the Health Committee inspected the common lodging houses in the city and assented to the re-registration of the following premises which conformed with the requisite standard :—

Church Army Hostel, Fairfax Street, with accommodation for 169 men.

Salvation Army Hostel, Milk Street, with accommodation for 154 men.

Premises at 20/22 Gloucester Lane, with accommodation for 80 men.

These premises are additional to the Municipal Lodging House which has accommodation for 123 men.

The registration of two other premises was refused as the houses failed to comply with the required standard of fitness.

The following premises ceased to be used as common lodging houses during the year, 10 Narrow Plain—demolished; and 16/18 Gloucester Lane—owner deceased.

Fourteen other houses have been included within clearance orders made under the provisions of the Housing Act.

The Municipal Lodging House at Wade Street, St. Jude's (provided under the Housing of the Working Classes Act 1890) was erected in 1905 at an approximate cost of £10,000 including furnishing. The building affords the following accommodation, viz. :—cubicles for 123 single men, dining room, reading room, kitchen and laundry, drying room, bathrooms and cloakroom, superintendent's quarters.

It continues to meet a definite need in the city. The total occupations for the year were 34,639 which was 1,130 less than during the previous year. The nightly average was 95. The charge for each lodger is 1/- per night, or a weekly ticket can be purchased for 6/-; baths are free, but a charge of 2d. per parcel is made for storage, etc.

Tents, vans and sheds, etc.

Periodical visits of inspection are made of all caravans, huts, tents, etc., which are used for human habitation. Sixty such visits were made during the year and in only one instance was it found necessary to deal with infringements of the bye-laws governing such dwellings.

New powers under the Public Health Act 1936 for the regulation of the use of land for movable dwellings have been adopted by the Council (see page 35).

Offensive trades.

Routine inspections numbering 414 were made of premises upon which offensive trades were carried on, and in seven instances it was found necessary to call attention to infringements of the bye-laws.

Six applications were made to the Health Committee for consent to the establishment of the business of fish frying and consent was given in respect of five applications. One annual consent was not renewed as the business had closed down voluntarily.

Annual consents to establish or continue fish-frying.

No. of applications.		Annual consents		Applica- tions withdrawn	No. of applica- tions in abeyance at end of year.	Total no. of consents in force (December, 1937)
In abeyance from previous year.	Received during the year.	Granted	Not granted			
1	6	3	3	—	1	56

The Health Committee has also granted consents to the establishment of the businesses of tripe-boiling, gut scraping, bone boiler, tallow melter, fat melter or extractor, and manufacturer of poultry feed.

Underground sleeping rooms.

The Council has approved regulations for securing the proper ventilation and lighting of rooms to which section 12 (2) of the Housing Act, 1936, applies, and the protection thereof against dampness, effluvia and exhalation, as follows :—

“ Every room used for human habitation the surface of the floor of which is more than three feet below the surface of the part of the street adjoining or nearest to the room, or more than three feet below the surface of any ground within nine feet of the room, shall comply with the following regulations, namely :

1. The subsoil of the site of the room shall, wherever the dampness of the site renders the precaution necessary, be effectually drained by means of earthenware field pipes or other suitable pipes which, if emptying into a sewer or a cesspool or other place for the reception of sewage or into a drain conveying sewage, shall be properly trapped and ventilated.

2. Every drain passing under the room other than a drain for the drainage of the subsoil of the site of the room shall be gas-tight and water-tight.

3. The site of the room shall be properly asphalted or covered with a layer of good cement concrete at least six inches thick, or four inches thick if properly grouted or protected in some equally effectual manner against the rising of any effluvium or exhalation.

4. The space, if any, beneath the floor of the room shall be provided with adequate means of ventilation.

5. (i) Every wall of the room shall be provided with an effective horizontal damp-proof course, composed of materials impervious to moisture :—

(a) beneath the level of the underside of the lowest timbers ;

(b) where there is a solid floor, not higher than the level of the upper surface of the concrete or other similar solid material forming the structure of the floor and beneath the level of the underside of all boards, planks, wood-blocks, and other wood laid or bedded upon or in the concrete or other material .

(ii) No part of any wall of the room shall where it is practicable to avoid it be in contact with the ground or earth.

(iii) Where any wall or any part of a wall of the room is in contact with the ground, the wall or part thereof shall, unless constructed so as to be impervious to moisture or as a hollow wall, be rendered or treated so as to be impervious to moisture, from the level of the horizontal damp-proof course provided therein beneath the floor of the room to a height of not less than six inches above the surface of the ground immediately adjoining.

6. Unless the room is provided with a fireplace, and a flue properly constructed and properly connected with the fireplace, it shall be provided with special and adequate means of ventilation by one or more suitably placed apertures or air shafts.

7. An area or open space properly paved with impervious material and effectually drained by means of a properly trapped gully shall adjoin the room and shall extend either :—

(a) throughout the entire length of one side thereof, or

(b) at least throughout the entire width of any window or windows required by these regulations and (except where the area of such window or windows shall be not less than one-seventh of the floor area of the room) for three feet on each side of such window or windows.

The area or open space so provided shall be not less than two feet wide in every part, and shall be open upwards from a level three inches below the level of the damp-proof course in the adjoining wall of the room.

Provided—

(a) that where a bay window in the room having side lights overlooks such an area the width thereof in front of such window may be one foot at the least, and

(b) that any steps necessary for access to any part of the building comprising the room may be placed in or over such an area or open space if they are so placed as not to be over or across any window of the room required by the regulation in that behalf.

8. The room shall be effectually ventilated and lighted by a window or windows opening directly to the external air which shall :

- (i) overlook the area or open space provided in pursuance of the regulation in that behalf or an area or open space of not less extent ;
- (ii) be so constructed that a total area equal at the least to one-twentieth of the floor area of the room may be opened, and so that at least the windows required for this purpose can be opened at the top ;
- (iii) have a total area equal at the least to one-eighth of the floor area of the room, a portion of which total area, equal at the least to one-tenth of the floor area of the room, shall be so situated that a line making an angle of thirty degrees with a horizontal plane can be drawn upwards from any point thereon in a vertical plane at right angles to the plane of the window so as not to intersect within a distance of ten feet measured horizontally from the window, any wall or kerb or other obstruction except an open fence.

For the purposes of this regulation—

- (i) a bay window having side lights shall be assumed to be equivalent to a flat window of the same total area situated at a distance from the wall of the area equal to the mean width of the area ;
- (ii) no account shall be taken in estimating the area of a window or windows of any part of any window which is above the mean level of the ceiling of the room.

9. From and after the date on which the Minister of Health consents to the foregoing regulations, the regulations under section 18 (1) of the Housing Act, 1925, which were prescribed by the Lord Mayor, Aldermen and Burgesses of the City of Bristol, acting by the Council, on the 3rd day of January, 1930, and consented to by the Minister of Health on the 15th day of April, 1930, shall be repealed."

The consent of the Minister of Health to the foregoing regulations was given on the 28th October, 1937.

Places of entertainment.

During the year the inspectors made 164 inspections of cinemas, theatres, and other places of entertainments ; some of these visits being during a performance.

The methods of heating and ventilating the halls, and the provision of sanitary accommodation were found to be generally satisfactory. It was necessary however, to serve notices or give verbal intimation with regard to insanitary water closet accommodation or cleansing in seven instances.

Workshops, etc.

Eighty-three notices relating to sanitary defects in factories, workshops, etc., were received during the year from H.M. inspector of factories.

Homework—lists of outworkers received during 1937.

	No. of outworkers	
	February	August
Boot and shoe making	5	—
Manufacture of bedding	—	—
Making of wearing apparel	49	35
Particulars received from other authorities	7	3
" sent to " "	—	10
Total ...	61	48

The lists of outworkers and their addresses were supplied to the town clerk by the various employers. These premises were visited by the district sanitary inspectors during the course of their duties and in every instance the premises were found to be satisfactory.

Outwork in unwholesome premises, section 108.

There were no instances of sanitary defects on outworkers' premises reported during the year.

Underground bakehouses.

The number of underground bakehouses in use at the passing of the Factory & Workshops Act, 1901 (17th August, 1901) in the city was 54. The number remaining in use at the end of 1937 was 10 and these were found to be maintained in a satisfactory condition.

Rag Flock Acts, 1911 and 1918.

Rag flock is used in a few premises in the city. Four samples were taken during the year, analysed by the public analyst, and found to conform to the standard of cleanliness laid down in the regulations.

Cemeteries.

The cemeteries belonging to the Corporation are managed by the Municipal Cemeteries Committee.

Particulars of these cemeteries are as follows :—

Name of cemetery	Area of present cemetery.	Land available for extension.	No. of burials during year ended 31st March.	
			1937	1938
Greenbank ...	32	Nil	1,382	1,383
Canford ...	22	12	824	723
Avonview ...	12	11	652	643
Shirehampton	6	6	94	99
Brislington ...	2	Nil	56	46
Bedminster Down	82	Nil	—	—

Greenbank cemetery was taken over from St. Philip and St. Jacob Burial Board in 1895 ; the Avonview cemetery from the St. George Burial Board in the 1897 extension of the city ; the Canford and Shirehampton cemeteries from the Barton Regis Rural District Council in the 1904 extension of the city ; the Brislington cemetery was incorporated in the city under the Somerset Review Order, 1933 ; and an area of 82 acres was purchased by the Corporation in 1935 for the development of a cemetery at Bedminster Down.

In addition, two cemeteries are provided by private companies (53 acres) and two by ecclesiastical bodies (6 acres), the main private cemetery being that at Arnos Vale (45 acres) where there is also a crematorium which was opened for use on the 10th February, 1928, by the Bristol General Cemetery Co. Since that date, 2,500 cremations have taken place including 475 in 1937. The existing cemeteries with land held in reserve will, it is anticipated, provide adequately for the needs of the city for the next 15 years.

Sanitary Inspection	Visits	Notices served*		Notices complied with*
		Verbal	Informal written	
Dwelling houses	38,935	218	361	714
Houses let in lodgings	194	14	24	36
Common lodging houses	42	—	—	—
Tents, vans and sheds	60	—	1	1
Prep. or sale of food premises ...	777	21	13	25
Offensive trades : including fried fish shops, rag and bone dealers	414	6	1	7
Factories, workshops, and work- places	954	43	30	51
Entertainment places	164	1	6	3
Shops Act	1,329	15	39	38
All other matters	5,176	79	102	32

FORMAL NOTICES AND ORDERS SERVED :

For abatement of nuisances, etc.	87 notices
For repair of private party drains serving 129 properties ...	20 drains
For paving private passages serving 109 properties ...	3 passages

1936		1937
	DRAINAGE WORK :—	
378	New drains laid	364
1,455	Drain tests made	972
887	Drains repaired	714
	WATER CLOSETS :—	
913	Flushing appliances introduced	765
934	New pans fitted	855
589	Other repairs and cleansing	653
29	Cesspools abolished	19
	WORK ON DWELLING PLACES :—	
1,330	Roofs repaired	1,164
14,635	Other new and repair work	12,987
1,026	Premises cleansed	451
812	Houses treated for dampness	606
961	Improvement of lighting and ventilation	1,172
872	New scullery sinks fixed	603
286	Washing conveniences installed in houses	212
	Conveniences <i>re</i> storage, preparation or cooking of food installed	353
584	Bathroom and geyser ventilation	69
138	Cases of overcrowding abated	—
14	Underground rooms closed	5
2	Abatement of other nuisances	990
1,157		
	SHOPS ACT, 1934 :—	
32	W.C.'s provided	15
33	Flushes provided	34
17	W.C. compartments cleansed	40
17	Washing facilities provided	25
9	Water supplies provided	1
44	Premises provided with adequate ventilation	17
7	Premises provided with adequate light	3
12	Sinks provided	14
13	Lavatory basins provided	4
14	Other works	82
10	ANIMALS IMPROPERLY KEPT :—	—
—	Manure receptacles provided	4
2	AGED AND INFIRM PERSONS—removed to satisfactory premises	—
	SMOKE :—	
29	Observations	19
12	Infringements of byelaws	6
	PUBLIC HEALTH ACTS :—	
	Dwelling-houses inspected for housing defects under P.H. Acts	4,210
4,606		
10,107	Inspections of such houses made	8,904

* Excluding notices under Housing Acts.

Factory and Workshop Act, 1901.

Premises. (1)	Inspections (2)	Written notices (3)	Occupiers prosecuted (4)
Factories (Including factory laundries) ...	235	15	—
Workshops (Including workshop laundries)...	475	11	—
Workplaces (Other than outworkers premises)	244	4	—
Total ...	954	30	—

Defects found (1)	Number of defects			Number of offences in respect to which prosecu- tions were instituted (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)	
<i>Nuisances under the Public Health Acts :*</i>				
Want of cleanliness	43	40	—	—
Want of ventilation	6	5	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	21	17	—	—
Sanitary accommo- dation { Insufficient	—	—	—	—
{ Unsuitable or defective	12	10	—	—
{ Not separate for sexes	—	—	—	—
<i>Offences under the Factory and Workshop Acts :</i>				
Illegal occupation of underground bakehouses (s. 101)	—	—	—	—
Other Offences (Excluding offences relating to out- work and offences under the sec- tions mentioned in the schedule to the Ministry of Health (Fac- tories and Workshops Transfer of Powers) Order, 1921)	—	—	—	—
Total ...	82	72	—	—

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

B.—HOUSING.**Prevention and abatement of overcrowding.**

Three hundred and eleven (311) cases of overcrowding (including 43 in council houses) were relieved during the year.

The 1st July, 1937 was given by the Minister of Health as the first appointed day for the city of Bristol. Notices relating to the provisions of the Act were given to the general public by means of posters on all public notice boards, and by advertisement in the local press. In addition, a leaflet setting out a summary of the provisions of the Act as to overcrowding was enclosed with the rate demand notes in October, 1937, as well as pamphlets being issued to tenants and owners upon application.

There are some 55,000 dwelling houses for which applications as to permitted numbers should be made and of this total over 12,500 were received and supplied to the end of December, 1937.

The 1st January, 1938 is the second appointed day on and after which new overcrowding becomes an offence.

The following table summarises the position as regards overcrowding at the end of the year.

(a)	(i)	Number of dwellings overcrowded at the end of the year	... ..	1,786
	(ii)	Number of families dwelling therein	...	2,811
	(iii)	Number of persons dwelling therein	...	15,739
	(iv)	Number of overcrowded families dwelling therein	... ..	1,863
	(v)	Number of persons dwelling therein	...	13,279
(b)		Number of new cases of overcrowding reported during the year	... ..	289
(c)	(i)	Number of cases of overcrowding relieved during the year	... ..	311
	(ii)	Number of persons concerned in such cases		1,911
(d)		Particulars of any cases in which dwelling-houses have again become overcrowded after the local authority have taken steps for the abatement of overcrowding	... ..	nil
(e)		Any other particulars with respect to over- crowding conditions upon which the medical officer of health may consider it desirable to report	... ..	nil

General housing.

At 31st December, 1937, 13,138 houses and flats were under the management of the Housing Committee. The total of 13,138

included 388 houses acquired by the Council or transferred from other local authorities. The rate of completion of houses, etc., under contracts placed by the Council has been as follows :—

	No.	Average per annum.
1st April, 1920—31st March, 1923 ...	1,264	421
1st April, 1923—31st March, 1930 ...	4,990	713
1st April, 1930—31st Dec., 1937 ...	6,496	838

This gives a total of 12,750 houses, etc., completed, including 294 houses leased by the Council.

At 31st December last, 1,392 houses were in course of erection or contracted for.

Five years' programme for slum clearance.

In May, 1933 the Council provisionally approved a scheme for the demolition of 2,900 houses and the erection of 3,000 houses and flats.

The original estimate of the number of houses to be demolished (2,900) has been increased from time to time. At 31st December, 1937, there were 3,145 houses included in clearance orders made by the Council and 318 houses were subject to demolition orders made by the Housing Committee by authority of the Council.

At the end of the year this total of 3,463 was sub-divided as follows :—

Houses demolished	...	...	...	...	1,485
Houses void pending demolition	...	...	...	...	383
					<hr/>
					1,868
Houses occupied but subject to orders for demolition	...	...	...	...	653
					<hr/>
					2,531
Orders for demolition not operative 31/12/37 ...					942
					<hr/>
Total Orders at 31st December, 1937 ...					3,463

Clearance orders.

Under section 154 (2) of the Housing Act, 1936, official representations were made by the medical officer of health relating to 209 areas. The total number of houses in these areas was 1,005 with a population of 3,797 persons.

In addition 32 demolition orders have been made on individual unfit houses during the year.

The following is a summary of the action taken under the Housing Act to 31st December, 1937.

A.—Repair procedure—sections 9 and 10.

HOUSES REPAIRED.

Year	By owners		By Corporation in default of owners	Annual Totals
	(a) after informal action	(b) after formal action		
1930 (Aug. to Dec.)	75	51	9	135
1931	140	53	21	214
1932	108	48	2	158
1933	91	44	15	150
1934	227	208	16	451
1935	249	352	19	620
1936	226	423	37	686
1937	158	216	13	387

B.—Procedure by section 11.

Year	Demolition Orders made	Undertaking to render fit accepted	Undertakings not to use for human habitation accepted	Total
1930	—	—	—	—
1931	109	6	7	122
1932	180	29	10	219
1933	100	29	2	131
1934	101	42	7	150
1935	75	46	25	146
1936	47	99	20	166
1937	32	126	14	172

C.—Area procedure—section 1.

HOUSES REPRESENTED IN CLEARANCE AREAS.

Year	No. of houses.			
1930	—	0
1931	70
1932	107
1933	357
1934	570
1935	713
1936	566
1937	1,005

1936	PARTICULARS ASKED FOR IN MINISTRY OF HEALTH CIRCULAR 1561.				1937
	<i>Inspection of dwelling houses.</i>				
1,323	(1) (a) Total number of dwelling houses inspected for housing defects (under Housing Acts)				1,517
3,090	(b) Number of inspections made for the purpose				3,985
	(2) (a) Number of dwelling houses (included under sub-head 1 above) which were inspected and recorded under the Housing Consolidated Regulations, 1925				1,517
1,323	(b) Number of inspections made for the purpose				3,985
3,090	(3) Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation				1,152
781	(4) Number of dwelling houses (exclusive to those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation				365
542	<i>Remedy of defects without service of formal notices.</i>				
	Number of defective dwelling houses rendered fit in consequence of informal action by the local authority or their officers				158
226	<i>Action under statutory powers.</i>				
	Proceedings under secs. 9, 10 and 16 Housing Act, 1936.				
306	Number of dwelling houses in respect of which notices were served requiring repairs				365
	Number of dwelling houses which were rendered fit after service of formal notices :—				
423	By owners				216
37	By local authority in default of owners				13
	Proceedings under Public Health Acts.				
	Number of dwelling houses in respect of which notices were served requiring defects to be remedied, verbal notices excluded				361
398	Number of dwelling houses in which defects were remedied after service of formal notices :—				
			Private party drains		
		Nuisances etc. No. of houses	No. of notices	Number of dwelling houses served	
175	By owners	85	—	—	85
151	By local authority in default of owners	1	20	129*	130
226		86	20	129*	215
	Proceedings under secs. 11 and 13 Housing Act, 1936.				
46	Number of dwelling houses in respect of which demolition orders were made				32
60	Number of dwelling houses demolished in pursuance of demolition orders				27
	Proceedings under sec. 12 Housing Act, 1936 :—				
7	Number of separate tenements or underground rooms in respect of which closing orders were made				6
—	Number of separate tenements or underground rooms in respect of which closing orders were determined, the tenement or room having been rendered fit				—
	Proceedings under secs. 11, 14 and 15, Housing Act, 1925 :—				
1	Number of dwelling houses in respect of which closing orders were determined, the dwelling houses having been rendered fit				—
1	Number of dwelling houses in respect of which demolition orders became operative				4
11	Number of dwelling houses demolished in pursuance of demolition orders				1

* In some of these cases the local authority relaid the combined drain and private contractors relaid branch drains, etc.

V.—INSPECTION AND SUPERVISION OF FOOD.

(a) Milk Supply.

Milk consumption—milk examined for tubercle—pasteurisation tests—pasteurisation plants—registrations—legal proceedings—milk in schools—ice cream.

(b) Meat and other foods.

Meat inspection—condemned food—legal proceedings—slaughterhouses—corporation abattoir—licences to slaughter—food preparation premises.

(c) Food and drugs, etc.

Adulteration—Pharmacy and Poisons Act, 1933—Fertilisers and Feeding Stuffs Act, 1926—Destructive Insects and Pests Act, 1907—colorado beetle—noxious weeds—Merchandise Marks Act, 1926—Agricultural Produce (Grading and Marking) Act, 1928—butter factories—artificial cream—shellfish.

(d) Chemical and bacteriological examination of food.

V.—INSPECTION AND SUPERVISION OF FOOD.

1936	SUMMARY OF WORK EFFECTED.	1937
	<i>Dairies, milkshops and cowsheds :</i>	
3,194	Visits paid	3,066
44	Notices served	64
26	Premises cleansed	18
22	Premises rebuilt, repaired or altered	6
8	Drains amended	6
12	Insanitary closets amended	1
—	Waterclosets fitted with pans and traps	2
1	Waterclosets fitted with flushing appliances	2
157	Other defects remedied	12
	<i>Samples taken :</i>	
121	For pasteurisation test	307
432	For tubercle examination	524
126	Repeats	92
37	Tuberculin test (certified)	57
219	Tuberculin tested	251
119	Pasteurised	123
57	Accredited	119
119	Test samples at institutions	179
1,080	Under Food & Drugs Acts	1,363
	<i>Licences for graded milks :</i>	
39	For bottling and sale of tuberculin tested	38
—	To produce accredited milk	2
3	To bottle accredited milk	2
14	To sell accredited milk	8
6	To produce pasteurised milk	9
23	To sell pasteurised milk	20
9	Supplementary licences to sell graded milks from premises outside the city	13

(a) Milk Supply.

During the year the food inspectors have had under supervision 1,432 registrations for the production and sale of milk, also 91 licences for the sale of graded milk. 3,015 samples of milk were taken for chemical and bacteriological examination, these included 550 samples of graded milks together with 179 samples taken at institutions. 158 samples were found not complying with the official standard of the prescribed test of the Milk (Special Designations) Order, 1936, and in all cases appropriate action was taken to trace and rectify the defective supply.

Milk consumption.

1936	Estimated amount consumed daily— gallons	1937
13,600	Pasteurised loose	16,009
	„ bottled	10,791
	„ school milk	1,268
460	Tuberculin tested loose	33
	„ „ bottled	557
405	Accredited loose	94
	„ bottled	203
6,400	Raw milk loose	3,148
	„ bottled	1,376
1,300	Homogenised	1,500

It is estimated that the milk consumption in the city has risen over the previous year by approximately 30 per cent. This is accounted for to some extent by the rise of 12 per cent. to 15 per cent. in supplies to schools, the larger amount going into factories for the use of employees and the various milk bars which have been introduced in different parts of the city.

Having regard to the increased consumption, it is of interest to note that the sale of pasteurised milk is steadily rising and it is estimated that 80 per cent. of the total supply of milk to the public is pasteurised.

Milk examined for tubercle.

There were 616 samples of milk taken for tubercle examination of which 27 were found to contain bacilli, affecting 17 producers. Twenty cows were traced and destroyed after being found to be affected with tuberculosis. In addition, twelve producers' farms where the milk of the herds was found to contain tubercle bacilli in 1936 were cleared, a further three cows being destroyed which were affected with tuberculosis.

Further 69 samples of milk produced outside the city were found to contain dirt, pus, organisms, streptococci, etc. These were reported to the county authority concerned.

Some indication of the time taken to clear a producer's farm where the milk of the herd has been found to contain tubercle bacilli is given in the following summaries of the activities on each farm.

1. A sample of milk found to contain tubercle bacilli. The herd was inspected by the veterinary officer and samples taken from two individual cows and submitted for examination, no tubercle bacilli by inoculation, both killed under the Tuberculosis Order, no udder lesions were found at the post-mortem. The herd was divided into three groups and the milk tested, one group was found to contain tubercle bacilli and an individual cow of this group showed the presence of tubercle bacilli microscopically. The investigation is still proceeding.

2. Two bulk samples were found to contain tubercle bacilli. Farm visited and four cows suspected by the veterinary officer. Samples taken from those four and a bulk sample from the remaining twenty cows. The bulk sample was negative and three of the four cows negative by direct examination and inoculation. The fourth cow was positive microscopically. This animal was killed and shown to be suffering from advanced tuberculosis with involvement of the udder. This farm was infected for a period of three months.

3. A bulk sample was found to be affected. Farm visited and one cow was found to be yielding milk containing tubercle bacilli, the rest of the herd was sampled in three groups. One group was found to contain tubercle bacilli by guinea-pig inoculation. An inspection of this group was, therefore, made and one cow was found to be yielding milk containing tubercle bacilli. A sample was taken of the remaining cows of this group and a further cow was found to be tubercular, the samples from the other animals proved negative. Period of infection lasted five months.

4. One bulk sample. The herd was inspected and samples taken from two single cows and a bulk sample from twenty cows. The

two former samples were found to be free from tubercle bacilli and the latter sample positive. The herd was tuberculin tested and samples taken from three cows who re-acted ; the milk of one cow was found to contain tubercle bacilli, the other two samples proving negative. The period of infection on this farm was three months.

5. Two bulk samples of milk found to contain tubercle bacilli. The herd was inspected and one cow gave tubercle bacilli microscopically. This animal was slaughtered and found to be tuberculous. The remainder of the herd returned a negative result. Further bulk samples were taken and found to contain tubercle bacilli by guinea-pig inoculation. The herd was re-inspected and samples of milk were taken and examined from two single cows, also from the remaining cows in two groups. The sample from one of the individual cows was found to contain tubercle bacilli microscopically and biologically and the other samples were found to contain no tubercle bacilli biologically. The infected animal was slaughtered and tuberculosis of the udder was found. Period of infection lasted $5\frac{1}{2}$ months.

6. One bulk sample. The farm was visited and the herd examined. Samples of milk were taken from three individual cows and three groups of cows. The milk of one single cow was found to contain tubercle bacilli and the milk from the other individual cows and the three groups was found to contain none. This farm was infected for a period of $3\frac{1}{2}$ months.

7. A sample of milk was found to contain tubercle bacilli. The herd was inspected by the veterinary officer and samples of milk were taken for bacteriological examination from three single and four groups of cows. The milk from the single cows was found to contain tubercle bacilli and they were destroyed. Period of infection lasted four months.

8. Three bulk samples were found to be affected. Farm was visited and the herd inspected. The milk of one cow was found to contain tubercle bacilli by guinea-pig inoculation and the remainder of the herd taken from groups of cows was shown to be free from tubercle bacilli by guinea-pig inoculation. Infection period lasted for three months.

9. Two bulk samples. Farm visited and samples taken from two individual cows, one giving a negative result, the other a positive, this animal was dealt with under the requirements of the Tuberculosis Order, 1925. Further samples have been taken and investigation is still proceeding.

10. Two bulk samples were found to contain tubercle bacilli. Farm has been visited by veterinary officer and three samples of milk taken. One cow is suspected to be developing pulmonary tuberculosis and arrangements have been made to clinically re-examine this animal. Farm not yet cleared.

11. Sample of milk found to contain tubercle bacilli. The farm was visited by veterinary officer and samples of milk taken from four single and two mixed groups of cows and submitted for examination. These samples proved negative. Period of infection lasted four months.

12. Three bulk samples. Farm visited and five samples of milk taken from the herd. Negative results were obtained. Two cows

were slaughtered prior to tubercle bacilli being found in bulk samples, but it is, of course, not possible to say if these were the culprits. Farm under suspected infection for four months.

13. Two bulk samples. Farm has been visited by veterinary officer and samples taken from groups and individual cows. One sample gave a positive result and the cow has been dealt with under the Tuberculosis Order. The investigation is still proceeding.

14. A sample of milk was found to contain tubercle bacilli. The farm was visited and the herd inspected and samples were taken. One cow was found to be badly affected with tuberculosis and destroyed. Period of infection three months.

15. Two bulk samples of milk. Samples were taken from each animal, four of which were found to contain tubercle bacilli, these animals were duly slaughtered. Further sampling has been done, the results are not yet available and the farm is still under observation.

16. A positive result was obtained from a bulk sample. The farm was visited by the veterinary officer and the herd examined. Samples were taken individually from seven cows and one bulk sample from two cows. A positive result was obtained from an individual cow which was slaughtered, the post-mortem revealing generalised tuberculosis. A further bulk sample has been taken and the investigation is still proceeding.

17. Routine sampling revealed that there was abortion fever in a herd. The farmer was informed and he arranged to destroy a cow which had recently had an abortion. Immediately this was done repeat bulk samples were taken from the herd. It was then found that abortion fever was still present in the herd also tubercle bacilli. The veterinary officer visited the farm and had six individual samples taken, the remainder being grouped in two groups of two and two groups of three. Tubercle bacilli were found in one of the groups of two; and *Br. abortus* was present in two of the individual samples. The group of two cows has been sampled individually. Farm not yet free from infection.

The samples of milk, including repeats, examined for tuberculosis were from :—

Producers.	No. of specimens.	Tubercle bacilli present in.
City	126	4
Somerset	231	8
Gloucestershire	259	5

Sampling under Order.

315 samples of milk were taken and submitted to the department of preventive medicine for various test purposes in determining the extent of pasteurisation. Incomplete pasteurisation was revealed in 87 of these samples.

Pasteurisation plants.

During the year four additional pasteurising plants have been installed and two old plants have been replaced with more recent models of larger capacity. Work for further additional plants is in progress.

The pasteurisation plants used by the nine firms holding licences for the production of pasteurised milk are of the following size and make :—

Firm	Positive holder.	Capacity per hour gallons.
A	A.P.V.	1,000
B	Silkeborg	350
C	A.P.V.	1,000
D	Silkeborg	400
E	A.P.V.	200
F	Astra	350
G	Coopers Progressive	400
H	" "	200
I	Batch	75

Registrations.

The number of registrations under the Milk & Dairies Order, 1926, at the end of 1937 were :—

Cowkeepers	...	...	65
Dairymen	...	...	387
Milkshops	...	...	839

In addition there were 141 dairymen retailing milk within the city from outside districts, making a total of 1,432 registrations, or 137 more than the previous year, largely due to the registration of a large number of the general shop retailers dealing only in ' bottled ' milk.

During the past year some steady progress has been made with reconditioning farms, no doubt the farmer has been somewhat encouraged by the Milk (Special Designations) Order, 1936, the production and sale of graded milks being under the control of the Milk Marketing Board, who allow a higher price for such milks. Many of the farms have the Bristol Water Works supply laid on, but there are a number of farms just within the city on which the only water supply is from collected rainwater, polluted shallow wells and rhines, there being no proper sewerage or drainage system available.

Legal proceedings.

Reason.	No. of prosecutions.	Result.
Selling skim milk from un- labelled can	1	Fined 10/-
Bottling milk on unregistered premises	4	Fined 40/- Fined 20/- Fined 10/- Pay 10/- costs

Milk in schools.

The facilities for the supply of milk to schools at low cost has led to a considerable increase in consumption by school children, and

consequently this department is giving special attention to the standard of milk supplied and also to the sources of supply.

Three hundred and forty-five (345) samples were taken during the year for examination as follows :—

Samples.	Complied.	Failed to comply.
30 as to quality ...	30	—
315 as to degree of pasteurisation	228	87

Eighty-seven of the samples examined for degree of pasteurisation showed improper treatment. Arising out of these results the pasteurisation plants were dismantled, overhauled and the recorders checked, following which there was a marked improvement in the milk afterwards supplied.

Ice cream.

In 1937, 331 premises remained on the register for the manufacture sale or storage of ice cream. The Bristol Corporation Act 1926 provides that all premises for the manufacture or sale of ice cream shall be registered for such purposes while section 38 (1) of the Bristol Corporation Act 1905 protects consumers by regulating the ice cream trade under penalty (vide report for 1934).

During the year thirty samples of ice cream were taken and submitted to the department of preventive medicine for test purposes.

(b) Meat and other Foods.

1936	SUMMARY OF WORK EFFECTED.	1937
	<i>Slaughterhouses and meat, etc., premises.</i>	
7,296	Visits to slaughterhouses	7,186
1,430	„ wholesale and retail meat markets	1,282
420	„ meat and fish shops	754
10	„ fish curing premises	25
300	„ sausage, etc., making premises	730
60	„ cold stores	45
143	„ institutions	306
—	„ street traders	219
126	Slaughterhouses cleansed	107
3	Slaughterhouses rebuilt, repaired or altered	1
25	Sanitary defects, etc., remedied	1
	<i>Meat, etc., destroyed.</i>	
441	Entire carcasses	342
103	Beasts, cows, etc.	124
4	Calves	5
42	Sheep and lambs	28
292	Pigs	185
88.13.3.21½	Total weight—tons, cwts., qrs., lbs. ...	100. 3.0.22½
77. 2.3.11½	Meat from slaughterhouses and shops	90. 3.1.18½
3. 6.1.19	Meat from cold stores	14.0.0
8. 4.2.19	Meat at abattoir	9. 5.3.4
37.14.0. 3½	Fish, poultry, rabbits, vegetables, etc. ...	24. 0.1.7½

Meat inspection.

The Bristol Corporation Act, 1926 enables the Corporation to make and enforce bye-laws to insist upon all butchers bringing freshly killed meat into the city from outside districts to submit the

meat for inspection by the city inspectors ; but this power has not been utilised. In addition, the city inspectors may visit slaughterhouses situated within a radius of ten miles from the Council House and examine meat in course of delivery, which if found diseased or unsound, may be seized and dealt with as if exposed for sale. A considerable amount of the fresh meat consumed in the city is slaughtered outside the city boundaries.

By arrangement with the chief constable, police officers co-operate with health department officials in regard to certain sections of the meat regulations and other matters, and their help has proved most useful and effective.

All meat inspection is carried out by qualified meat and food inspectors.

There is practically no ante-mortem examination carried out in the private slaughterhouses in the city, but at the public abattoir where the meat inspector is responsible for the reception of animals opportunity is taken at the time for ante-mortem examination of all animals received. Notification is given to the owner of any animal which is in anyway exhausted or distressed, etc., requiring the animal to be slaughtered immediately. There is also an isolation block, separate from the slaughterhall, into which any suspicious case of disease can be isolated for veterinary inspection.

All animals are subjected to post-mortem examination.

Meat, etc., condemned.

During the year the city food inspectors discovered or had surrendered to them over 124 tons of meat and other foodstuffs which was afterwards destroyed as diseased, unsound or unfit for human food. The meat included the entire carcasses of 342 animals.

Carcases inspected and condemned.

The following table shows the number of carcasses inspected and condemned :—

	Beasts	Calves	Sheep and lambs	Pigs
Number killed	7,660	3,313	29,948	46,360
Number inspected :—				
In city	5,932	2,404	20,389	41,861
At abattoir	1,728	909	9,559	4,499
Total ...	7,660	3,313	29,948	46,360*
<i>All diseases except tuberculosis :</i>				
Whole carcasses condemned ...	12	4	27	96
Carcasses of which some part or organ was condemned ...	690	23	417	1,753
Percentage of the number in- spected affected with disease other than tuberculosis ...	9·2	·81	1·48	4
<i>Tuberculosis only :</i>				
Whole carcasses condemned ...	112	1	1	89
Carcasses of which some part or organ was condemned ...	883	2	30	2,772
Percentage of the number in- spected affected with tuber- culosis	12·9	·09	·1	6·16

* In addition, 21,131 imported New Zealand pigs were inspected.

Legal proceedings in respect of unsound meat, etc.

No legal proceedings were taken during the year.

Slaughterhouses.

The numbers of the various slaughterhouses and classifications as to fitness or unfitness were as follows :—

	Registered.	Permanently licensed.	Annually licensed.	Totals
Unfit	16	7	11	34
Fit	7	5	22	34
Total	23	12	33	68

In 1934, one (unfit) annually licensed slaughterhouse and one registered (unfit) slaughterhouse were closed. Two (fit) 'registered' premises were cancelled in consideration of the granting of two annual licences for bacon factories.

The corporation public abattoir was opened on 16th October, 1935.

In 1935 the Health Committee did not renew ten annual licences, and three other annual licences lapsed, slaughtering having ceased in respect to these premises.

The position at the end of 1935 was as follows :—

	Registered.	Permanently licensed	Annually licensed	Totals
Unfit	15	7	—	22
Fit	7	5	21	33
Total	22	12	21	55

In 1936 one annual licence was not renewed and one (unfit) permanently licensed slaughterhouse was demolished.

During 1937 notices to cease slaughtering were served in respect of thirteen (unfit) 'registered slaughterhouses' and the use and occupation of these premises ceased accordingly.

The Health Committee gave consideration to the renewal of annual licences in operation and the renewal of 13 licences was refused.

The number of slaughterhouses in use and occupation at the end of 1937 was as follows :—

	Registered	Permanently licensed	Annually licensed	Totals
Unfit	2	6	—	8
Fit	9	5	7	21
Totals	11	11	7	29

Action is being taken to secure the closure of the two registered premises and the six permanently licensed premises, all of which are unfit.

The Health Committee have also granted annual licences in regard to two knackers' yards.

The total of slaughterhouses and knackers' yards in use is 31.

Under the Public Health (Meat) Regulations, 1924, licensees are required to give the department notice of killing. Daily visits are made to all slaughterhouses and to the principal bacon factories in the city for the purpose of inspecting meat to be used for human consumption. In this way the city staff inspected during the year no fewer than 108,412 carcasses.

Bristol Corporation abattoir.

The first two years' working has shown the public abattoir to be a very definite acquisition to the city. Adequate facilities conforming to the most up-to-date practice for lairage, slaughtering, cooling etc., are provided, as are also facilities for the proper inspection of carcasses.

The following table shows the animals killed at the abattoir month by month during the year :—

	Beasts	Calves	Sheep	Pigs	Total
January ...	127	3	404	41	575
February ...	145	6	387	168	706
March ...	167	23	487	1,166	1,843
April ...	111	3	420	554	1,088
May ...	102	27	634	78	841
June ...	131	96	1,251	292	1,770
July ...	113	90	1,055	215	1,473
August ...	107	59	988	185	1,339
September	165	148	1,226	451	1,990
October ...	159	191	980	374	1,704
November...	170	128	884	336	1,527
December...	230	135	891	644	1,901
Total, 1937	1,736	909	9,607	4,504	16,756
Total, 1936	1,303	583	4,808	956	7,650

The number of animals killed during the year shows a considerable increase over the previous year, the number being 16,756 as against 7,650 for the year 1936, an increase of 9,106 animals.

The accommodation and equipment available is sufficient to deal efficiently with a considerable advance on these figures.

The equipment was augmented by the installation of a pig singeing plant during 1937. This additional facility has greatly assisted in the slaughtering and dressing of porkers and bacon pigs.

Pathological work for the abattoir is carried out by the department of preventive medicine at the University of Bristol, to which department all interesting specimens are submitted for research.

Licences to slaughter.

In 1937, 201 licences to slaughter were renewed and 13 new licences issued in accordance with the provisions of the Slaughter of Animals Act, 1933.

Preparation of food, etc.

All premises utilised for the preparation of food, etc., for human consumption are periodically inspected by the district sanitary inspectors. These places include bakehouses, cooked meat shops, fried fish shops, ice cream manufacturers, restaurants, street traders, etc. 414 inspections were made during the year, and seven notices were served requiring the remedying of defects.

The business of fish frying has been declared an offensive trade and since 1926 the Health Committee has granted annual consents to the establishment of approved new businesses. There are 174 fried fish shops in the city, 55 of which are subject to annual consents.

(c) Food and Drugs, etc.

During the year, 1,898 samples of food and drugs were taken for analysis under the provisions of the Food and Drugs (Adulteration) Act, 1928, and allied acts and regulations, the proportion of samples examined being 4·58 per 1,000 population. Details of the samples submitted will be found in the report of the public analyst, showing that 73 or 3·84 per cent. were condemned as not genuine.

Legal proceedings were taken in 21 cases and penalties imposed as follows :—

£15 and £5 costs	...	...	...	one case
£10	...	...	...	two cases.
£8	...	...	...	one case
£5	...	...	...	five cases
£3 3 0 and £1 1 0 costs	...	...	...	one case
£3 and 8/- costs	...	...	...	one case
£2	...	...	...	one case
£1	...	...	...	one case
10/-	...	...	...	two cases
5/-	...	...	...	one case
Pay 30/- costs	...	...	...	one case
Pay 10/- costs	...	...	...	two cases.

One case was withdrawn as defendant held warranty, and one case dismissed under first offenders act.

In addition to the above, thirteen cautions were issued by the town clerk, one case was reported to the Ministry of Health, in one case the whole consignment bulked proved genuine, and in one case it was found to be as the cow gave it.

Pharmacy and Poisons Act, 1933.

At the commencement of the year there were 294 registrations in force with the local authority for the sale of Part II poisons.

During the year 35 new applications for registration were received and granted; 283 applications for the renewal of licences were granted, and eleven licences were not renewed; four businesses have changed ownership, and new licences were granted for these premises; there were thus 314 licences in force at the end of the year.

Inspections have been made of all the premises registered, and many cautions were necessary regarding labelling and the nature of containers.

At several places stocks packed prior to the Act coming into force, and which did not comply with the requirements of the Act were found exposed for sale; these stocks have now been withdrawn from sale.

Sixteen samples were submitted to the public analyst for analysis to ascertain if poisons were present, or where stated to be present, if in the proportion permitted.

Inspections were made of vans, and premises not registered for the sale of poisons, and in two cases poisons were found to be on sale on unregistered premises. Proceedings were instituted and in one case a fine of £1 and in the other 10/- was imposed. A listed seller was found selling a Part I poison, proceedings were taken and he was ordered to pay 10/- costs, and letters of caution were sent in seven cases for various offences.

Officers at the city's institutions have been appointed to see that the Act is complied with and report regularly the result of their inspections.

Fertilisers and Feeding Stuffs Act, 1926.

Twenty-eight samples were collected of which twenty-seven were submitted to the agricultural analyst. One vendor failed to give the statutory statement required and thus no analysis was proceeded with. Twenty-two of the samples were reported upon as being genuine. Four samples that did not comply with the requirements of the Act were reported upon as not being to the prejudice of the purchaser, and a sample of fertiliser that did not conform was withdrawn from production by the manufacturer upon being cautioned as to its condition.

Destructive Insects and Pests Act, 1907.

Inspections were carried out by the inspector of the Ministry and the inspector of the local authority.

One case of wart disease of potatoes was found upon ground previously regarded as free from disease, and was reported to the Ministry, who have scheduled the plot as infected.

Colorado beetle.

Every precaution was again taken to keep this pest in check. Illustrated posters giving details of the beetle were kept exhibited, and inspections made of crops. Two specimens of the suspected beetle were submitted by members of the public for examination, but both cases were reported upon as being of a harmless nature.

Noxious weeds.

Twenty-six complaints were received as to the condition of gardens and void land, much of the trouble was on building land awaiting development. In twenty-four cases the owners were requested to clean the land, and this was satisfactorily carried out. Two cases did not justify any action being taken.

Merchandise Marks Act, 1926.

There have been some badly marked imported eggs offered for sale, and others without any mark of origin stamped upon the shell. Vendors and wholesalers were warned about handling these eggs and information sent to the authorities at the port of landing.

The marking of dried fruits and tomatoes has required considerable attention owing chiefly to slackness on the part of vendors.

Agricultural Produce (Grading and Marking) Act, 1928.

The requirements of the Act have been well complied with and the cold stores and vendors premises have been visited. Some unstamped preserved eggs were found being offered for sale, and were withdrawn until correctly stamped.

Eight samples of eggs were submitted to the public analyst for examination for the removal of marks, but no definite evidence could be obtained of the removals.

Butter factories.

The fifteen premises registered with the local authority at which the blending and re-working of butter is permitted have been inspected and samples taken, and were all found to be satisfactory.

Artificial cream.

There has been no addition to the four firms registered for the manufacture and sale of artificial cream.

Shell fish (Molluscan).

There are no shell fish beds or layings within the jurisdiction of the Corporation of Bristol. The supply of shell fish marketed in Bristol is obtained from the following sources :—

Cockles from St. Clair, South Wales, and King's Lynn.

Escallops ,, Brixham, South Devon.

Mussels ,, Appledore, North Devon ; and St. Clair, South Wales.

Oysters ,, Whitstable, Pyefleet and Colemouth via London Portuguese and American via Liverpool.

Winkles ,, Appledore, North Devon.

Whelks ,, King's Lynn.

Samples of shell-fish were submitted to the department of preventive medicine for bacteriological examination.

(d) Chemical and bacteriological examination of food.

The city chemical and bacteriological laboratories for the examination of food are situated at the University of Bristol department of preventive medicine, Canynge Hall. A report containing full particulars of the nature and number of samples submitted for analysis during the year will be found in the appendix.

VI.—PREVALENCE OF AND CONTROL OVER INFECTIOUS AND OTHER DISEASES.

Notifiable infectious diseases — smallpox — vaccination — diphtheria — diphtheria immunisation — diphtheria antitoxin — erysipelas — scarlet fever — enteric fever — dysentery — typhus fever — infectious diseases of the nervous system — malaria — non-notifiable infectious diseases—home nurses—anthrax—Tuberculosis cases—deaths—comparative statistics—Public Health (prevention of tuberculosis) Regulations, 1925—Public Health Act, 1925, section 62—boarded-out cases—after-care—dispensary report and tables —venereal diseases—cancer—influenza and respiratory diseases—heart disease — prevention of blindness.

Notifiable Diseases during 1937 (including Port cases).

NOTIFIABLE DISEASES.	CASES NOTIFIED IN WHOLE DISTRICT						REMOVED TO HOSPITAL		DEATHS IN WHOLE DISTRICT.							NOTIFIED IN EACH QUARTER.				Attack rate per 1,000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	At all ages.	At ages—years :					No.	%	At ages—years							1st	2nd	3rd	4th																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45			45 to 65	65 and upwards	Under 1	1 to 5	5 to 15	15 to 25	25 to 45							45 to 65	65 and upwards																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Small-pox

VI—PREVALENCE AND CONTROL OF DISEASE.

Infectious disease.

Zymotic diseases	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year 1937
Cases	619	387	349	917	2,272
Deaths	17	9	8	7	41

The number of deaths in Bristol in 1937 from enteric fever, smallpox, measles, scarlet fever, whooping cough, diphtheria, and diarrhoea and enteritis under two years, which are known as zymotic diseases, was 41. This gives a death rate for the group of 0·09 per 1,000 compared with 0·25 in 1936, a marked decrease mainly attributable to the decreased prevalence of measles. Fifteen of these deaths were due to whooping cough and eleven to diarrhoea and enteritis under two years of age.

Many other infectious diseases have, however, to be taken into consideration in assessing the health circumstances of the city. Altogether the cases notified totalled 2,356, 306 less than in 1936, giving an attack rate of 5·67 per 1,000, or 0·75 less. This decline in the general attack rate was due to fewer cases of diphtheria (126 less than last year), erysipelas (17 less), scarlet fever (170 less), enteric fever (9 less), pneumonia (7 less), malaria (4 less), dysentery (10 less), encephalitis lethargica (4 less), puerperal fever (4 less), puerperal pyrexia (3 less), and pulmonary tuberculosis (8 less). The decreases were offset by increases in typhus fever (1 case—none last year), cerebro spinal fever (4 more), anterior poliomyelitis (10 more), polio-encephalitis (4 more), ophthalmia (16 more), and non-pulmonary tuberculosis (21 more).

Other important facts to be noted with regard to the prevalence of infectious diseases in 1937 are :—

- (1) Fifty per cent. of the infectious cases were of children below the age of 15 years, and 32 per cent. of school age (5—15 years). The corresponding figures last year were 53 per cent. and 34 per cent.
- (2) Seventy per cent. of all notifiable infections excluding tuberculosis were isolated in hospital, one per cent. more than last year. This figure relates only to cases where diagnosis was confirmed in hospital.
- (3) There were no notifications during the year of small-pox, cholera, plague, relapsing fever, or continued fever.

The tables preceding this chapter give details of all notifiable diseases in districts, in each quarter and by age groups; also the numbers and percentage removed to hospital, and the mortality by age groups.

In the reports of the medical superintendents of the city hospitals, sanatoria, etc., will be found further observations on the type of disease nursed. Puerperal fever and ophthalmia neonatorum are specially dealt with in the report dealing with maternity and child welfare.

Smallpox.

No case of smallpox was reported in Bristol during the year 1937, and the city has remained free of this disease since two cases of the mild type occurred in 1929. The medical officers of the department are available for consultation in doubtful cases, and co-operation in this way is welcomed.

Vaccination.

There has been no change in the local arrangements described in my report for 1930 for dealing with vaccination. During the year (in November), Mr. E. E. Masters was appointed vaccination officer in succession to Mr. C. W. M. Vincent (retired).

The city is divided into eight vaccination districts, a public vaccinator being appointed for each district, separate public vaccinators are also appointed for Southmead Hospital, and Eastville and Stapleton Institutions.

The following table summarises the work of the public vaccinators and the vaccination officers for the last three years :—

Year	No. of births registered	Certificates of :				Persons successfully vaccinated at the cost of the rates (year ended 30th Sept.)			
		Primary vaccination (all ages)	Statutory declaration	Postponement	Insusceptibility	Successful primary vaccination.			Re-vaccinations.
						Under 1 year	Over 1 year	Total	
1937	6,571	2,460	3,416	96	14	640	1,373	2,013	144
1936	6,350	2,682	3,240	86	19	932	1,536	2,468	28
1935	6,045	2,705	3,085	92	22	1,044	1,495	2,539	51

In addition during the year 1937, 64 re-vaccinations were registered by the vaccination officers. No contacts of cases of smallpox were vaccinated or re-vaccinated under the Public Health (Smallpox) Regulations, 1917.

Exemptions on statutory declarations in 1937 (3,416) are equivalent to 52 per cent. of the births registered.

Diphtheria (including Membranous Croup).

Year	No. of cases.				Total	No. of deaths.				Total	Fatality (case mortality %)
	Quarters.					Quarters.					
	1	2	3	4		1	2	3	4		
1928	158	127	118	196	599	3	4	3	7	17	2·8
1929	201	183	227	521	1,132	17	7	15	23	62	5·5
1930	600	246	250	388	1,484	24	3	4	10	41	2·8
1931	271	168	193	196	828	10	5	9	7	31	3·7
1932	149	69	98	227	533	6	3	6	7	22	4·1
1933	137	140	167	195	639	9	2	5	6	22	3·4
1934	182	135	144	290	751	5	3	2	6	16	2·1
1935	287	124	105	109	625	3	4	1	4	12	1·9
1936	104	67	78	192	441	1	1	2	11	15	3·4
1937	77	41	70	127	315	3	2	1	2	8	2·5

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
Attack rate ...	0·76	1·49	1·81
Death rate ...	0·02	0·07	0·08

The number of diphtheria cases reported decreased by 126 compared with last year, this being the third successive decrease since 1934, and the number of deaths is the lowest on record. The case mortality fell from 3·4 to 2·5 per cent. This compares with an average fatality percentage of 2·9 for the preceding five years and 4·3 per cent. for the period 1926-1930.

Fifty-five per cent. of the total cases notified occurred amongst children of school age, and 20 per cent. amongst children under five years of age; 87 per cent. of the fatal cases were children under 10 years of age, and 50 per cent. under five years of age; 97 per cent. of the cases were removed to hospital.

Diphtheria immunisation.

The most effective weapon in combating the disease is the protection afforded by the safe and efficient method of immunisation in early childhood by means of toxoid.

As stated in my report for 1930 the Health Committee have adopted this method and the course is available free of charge for

all children of school age and under. By arrangement with the Education Committee inoculations are given by the school medical staff at the schools and a weekly clinic is also held at the Central Health Clinic, Tower Hill, every Saturday.

Sessions are also held at the maternity and child welfare clinics in the outlying districts when the need arises, the Health Committee being responsible for all expense.

The following table shows the number immunised in 1937 at schools and centres :—

1936		Education department	M. & C.W. department	Total 1937
2,394	No. received full course ...	2,329	49	2,378
1,990	Observed after Schick testing	2,191	126	2,317
1,882 (94·5%)	Found negative after observation	2,146	126	2,272 (98%)

Fourteen children were notified as cases of diphtheria in 1937 subsequent to receiving immunising injections, but no significance must be attached to this figure, as several had not had a full course, and others who had a full course had not been subsequently tested.

Only two cases of diphtheria occurred in children who had been tested and declared negative subsequent to immunisation.

The cases were as follows :—

Patient	Age		Immunising injections (dates)			Tested and found negative	Diphtheria onset 1937	Character of disease
	M.	F.	1st	2nd	3rd			
E.M.	10	...	11/7/33	6/10/33	10/11/33	23/11/33	26/ 7/37	Moderate
J.G.	...	8	21/2/31	14/ 3/31	26/ 6/31	11/11/31	23/12/37	Severe

Since October 1929 to the end of 1937, 15,033 children aged 1—15, have been immunised and tested negative, and of these two cases of diphtheria occurred in 1937. This is equivalent to an incidence rate of ·13 per thousand, compared with 235 cases of diphtheria amongst approximately 70,753 children in the same age group who had not been immunised, an incidence rate of 3·3 per thousand.

Supply of diphtheria antitoxin.

In order to facilitate the immediate application of antitoxin in diphtheria, the following arrangements have been in force since October, 1924 :—

Upon receipt of a request to take advantage of the scheme, the medical officer of health instructs a firm of chemists in the city to issue to the medical practitioner a stock of antitoxin not exceeding 48,000 units. This is in phials containing 8,000 units concentrated serum, which is regarded as the minimum therapeutic dose irrespective of age for the present type of diphtheria. Certificates for free

supply to patients unable to pay are sent with the antitoxin. After six months the chemists recall the surplus antitoxin, furnish a fresh supply, and collect from the medical practitioner the value of that used for patients who can afford to pay for it. If used for a patient unable to pay, the practitioner hands a certificate to that effect to the chemists, and the Health Committee pays for the latter cases only.

In order to prevent the accumulation in the area of a surplus of antitoxin, it is necessary to limit the issue usually to 48,000 units but this stock can be renewed as often as required, and in special circumstances the above quantity can be exceeded on application to the medical officer of health. In case of special emergency, antitoxin can be obtained at the Central Health Clinic, Tower Hill, Bristol, 2, at any hour of the day or night, including Sundays.

Erysipelas.

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
Attack rate ...	0·42	0·37	0·43

One hundred and seventy six (176) cases of erysipelas were reported during the year, of which 83 per cent. were adults over twenty-five years of age. Fifty six per cent. of the cases were removed to hospital for treatment. Five deaths occurred, one aged under one year, and three aged 45 years upwards, giving a case mortality of 2·8 per cent. compared with 3·6 per cent. last year.

The attack rate for the year was 0·05 per 1,000 population above that for England and Wales. The death rate was ·012 per 1,000 population.

Scarlet fever.

Year	No. of cases				Total	No. of deaths				Total	Fatality (case mortal- ity %)
	Quarters					Quarters					
	1	2	3	4		1	2	3	4		
1928	332	276	220	383	1,211	...	1	...	2	3	0·25
1929	337	211	202	358	1,108	1	3	2	2	8	0·7
1930	281	177	145	208	811	2	...	...	...	2	0·25
1931	127	100	103	123	453	1	...	1	...	2	0·4
1932	100	104	106	328	637	1	...	...	2	3	0·5
1933	196	240	131	203	770	2	1	1	...	4	0·5
1934	213	170	203	458	1,044	...	1	...	...	1	0·09
1935	358	206	193	276	1,033	4	3	2	...	9	0·8
1936	282	211	91	245	829	...	...	...	2	2	0·2
1937	173	123	140	223	659	2	...	...	2	4	0·61

Rate per 1,000 population.

		Bristol	England and Wales	Combined County Boroughs
Attack rate	...	1.59	2.33	2.56
Death rate	...	0.009	0.01	0.01

During the year under review 170 fewer cases of scarlet fever were reported than in 1936. Altogether 659 notifications were received, compared with 829 in 1936, 1033 in 1935, and 1,044 in 1934.

Four deaths occurred, compared with two in 1936. The case mortality was 0.61 per cent., compared with 0.2 in the previous year. Eighty three per cent. of the cases received hospital treatment.

The attack rate for England and Wales for 1937 fell by 0.2 per 1,000 population, the death rate remaining stationary at 0.01. Compared with national rates, Bristol's attack rate was 0.74 per 1,000 below that for the country, and the death rate 0.001 less.

Enteric fever.*Rate per 1,000 population.*

		Bristol	England and Wales	Combined County Boroughs
Attack rate	...	0.03	0.05	0.06
Death rate	...	0.002	0.00	0.01

Fourteen cases of enteric fever were notified in the city during the year, including seven paratyphoid B. This is nine less than last year. The cases, of which 13 were confirmed bacteriologically, were mostly individualistic in distribution, except that two cases occurred in one household. There was one death. Eleven cases were removed to hospital. The attack rate for Bristol was 0.02 per 1,000 population below that recorded for England and Wales.

Dysentery.

Bristol { attack rate ... 0.09 per 1,000 population.
 { death rate ... 0.00 " " "

Thirty eight (38) cases of this disease were notified during the year, ten less than last year; 29 originated in private homes, and nine in two different institutions.

Four cases were of the Flexner type, and thirty four of the Sonne type. Thirty were treated in hospital, and eight were nursed at home.

There were no deaths.

Typhus Fever.

One case of this disease was notified, the first since 1927.

The case was fully investigated and an account was published in the *Lancet* of 26th February, 1938.

Infectious Diseases of the Nervous System.

Cerebro spinal fever.

Bristol	{	attack rate	...	0·02	per 1,000 population.
	{	death rate	...	0·02	„ „ „

During the year nine cases of this disease were notified, an increase of four on the previous year. There were seven deaths compared with one in 1936, giving a case mortality of 78 per cent.

All the cases were removed to hospital. Two occurred in the first quarter, three in the second quarter, and four in the last quarter of the year. There was no instance of more than one case occurring in a private house or institution. Three cases were children under five years of age, the remainder being adults.

Poliomyelitis.

Bristol	{	attack rate	...	0·03	per 1,000 population.
	{	death rate	...	0·002	„ „ „

Twelve cases of anterior poliomyelitis were notified during the year, compared with two in 1936. Eleven cases were under 15 years of age (six under five years). One case was notified from the Downend Babies' Home, and the remainder from private homes. Ten cases were removed to hospital.

Encephalitis Lethargica.

Bristol	{	attack rate	...	0·01	per 1,000 population.
	{	death rate	...	0·01	„ „ „

Five cases, and five deaths from this disease were reported during the year, compared with nine cases and seven deaths in 1936. One case occurred in a child under 15 years of age, the remainder being adults. All the cases except one were acute, and three were treated in hospital.

Polio Encephalitis.

Four cases were notified, the first since 1931. Three were under 15 years of age (two being under three years), and the remaining case was under 25 years. All were removed to hospital. Two deaths were recorded.

Malaria.

One case of this disease was notified, the same number as in the previous year.

Non-notifiable Infectious Diseases

1936		QUARTERS				1937
		1st	2nd	3rd	4th	
	CASES—					
2,784	Measles ...	83	100	32	508	723
23	German measles	11	5	4	3	23
1,989	Whooping cough	280	116	98	55	549
1,037	Mumps ...	2,230	843	42	48	3,163
1,059	Chicken-pox ...	267	701	316	508	1,792
6,892	Total ...	2,871	1,765	492	1,122	6,250
	DEATHS—					
38	Measles ...	—	1	—	1	2
—	German measles	—	—	—	—	—
18	Whooping cough	8	3	3	1	15
—	Mumps ...	—	—	—	—	—
—	Chicken-pox ...	—	—	—	—	—
56	Total ...	8	4	3	2	17

The only figures available relative to the number of cases of non-notifiable infectious disease are those obtained from school cards, and from returns of cases discovered in the homes by nurses and health visitors.

Measles and whooping cough show greatly decreased numbers in comparison with 1936, but in the case of chicken-pox and mumps substantial increases are recorded.

Measles.

	Death rate per 1,000 population	
	1936	1937
Bristol	0·10	0·004
England and Wales ...	0·07	0·02
Combined County Boroughs	0·09	0·03

Altogether 723 cases were reported to the department during the year—mostly in the last quarter—as compared with 2,784 last year, and 2,561 in 1935, and is the lowest number recorded since 1932. The number of deaths was two, both aged two years.

Broncho pneumonia was as usual the commonest complication associated with measles. 77 cases of measles, and 11 of measles and broncho pneumonia were admitted to Hanı Green Hospital from institutions, and from homes where the facilities for nursing were inadequate. Four cases proved fatal.

The death rate of 0·004 per 1,000 shows a decrease of 0·096 compared with last year, and is 0·016 below the national rate.

The medical superintendent of Ham Green Hospital in his report for 1936 referred to the need for the extended use of convalescent or parental serum to prevent or modify attacks in young children, and to prevent the serious lung conditions so prevalent, but although arrangements have been made with the view to obtaining a supply of this serum, and medical practitioners have been circularised to the effect that willing and suitable blood donors would be paid a gratuity of 10/6, the response to this appeal has been a very poor one, and our stock of serum is exhausted. The co-operation of medical practitioners in bringing suitable donors to the notice of this department is urgently desired.

German measles.

For the second year in succession, the case incidence in this disease was very low. Only 23 cases were reported during the year, the same number as in 1936. There were no deaths.

Whooping Cough.

	Death rate per 1,000 population.	
	1936	1937
Bristol	0·04	0·04
England and Wales	0·05	0·04
Combined County Boroughs ...	0·06	0·04

There was a marked decrease in the number of cases of whooping cough reported in the city, 549 coming to our knowledge during the year, as compared with 1,989 last year. There were fifteen deaths, against 18 in 1936. Forty seven cases of whooping cough, and 29 cases of whooping cough and broncho pneumonia were admitted to hospital. Of these, six died.

Mumps.

3,163 cases were reported (the highest number for many years), against 1,037 in 1936, 2,230 occurring in the first quarter. There were no deaths.

Chicken Pox.

The number of cases reported was 1,792 against 1,059 last year, the biggest number (701) being in the second quarter.

Work of the home nurses.

Three fever trained nurses are employed to visit homes in connection with notifiable and non-notifiable infectious diseases. Cases

of notifiable diseases are visited at once. Non-notifiable cases are visited as soon as possible, and when there is no doctor in attendance, instructions are given for the proper nursing of the child. If the conditions for home nursing are unsatisfactory, or if the mother be in poor health, removal to hospital is advised in cases of measles and whooping cough. Suspicious cases are advised to see a doctor, but if circumstances do not permit, the home nurse takes swabs in the case of diphtheria, and gives advice as to gargling and nasal spraying and douching. Revisiting in certain diseases is carried out every few days.

Other work carried out by these nurses includes advice concerning scabies, verminous and neglected persons, and arrangements are made for disinfecting baths when necessary.

The following table gives the number of cases visited by these nurses during 1937 :—

1936	Disease	1937
791	Scarlet fever	658
467	Diphtheria	350
22	Enteric fever	15
11	Encephalitis lethargica	9
2	Anterior poliomyelitis	12
—	Polio encephalitis	3
6	Cerebro-spinal fever	10
5	Malaria	1
37	Dysentery	33
184	Erysipelas	169
2,825	Measles	680
2,079	Whooping cough	560
729	Chicken pox	1,531
1,174	Mumps	2,048
16	German measles	14
8,348	Total cases	6,093

Anthrax.

One case was brought to the notice of the department. The patient was a man employed at a knackers' yard. He was removed to hospital, and died the following day.

Enquiries elicited the fact that the carcass of a cow was brought to the knackers' yard in question, and it was subsequently found that the animal had died from anthrax. In accordance with the usual practice, the men engaged in handling the carcass were supplied with gloves and disinfectant, and were instructed to consult a doctor at once should they have any scratches, pimples, etc., or feel unwell. This patient, however, although having a pimple on his hand, merely had iodine treatment, but did not mention the matter to his employers, who were only informed when he was in hospital.

There are two knackers' yards in Bristol, and these have now been supplied with printed pamphlets for distribution to their employees when they are handling an anthrax carcass.

Tuberculosis during 1937 (including Port cases).

NOTIFICATIONS	CASES NOTIFIED IN WHOLE DISTRICT.								DEATHS IN WHOLE DISTRICT.								NOTIFIED IN EACH QUARTER				ATTACK RATE PER 1,000				
	At all ages	At ages—years :							At all ages	At ages—years :							1st	2nd	3rd	4th	1937	1936			
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards		Under 1	1 to 2	2 to 5	5 to 15	15 to 25	25 to 45	45 to 65							65 and upwards		
Pulmonary tuberculosis ..	(46) 461	(1) 1	(1) 5	(3) 64	(12) 124	(17) 178	(12) 79	(-) 10	279	1	..	..	1	65	121	80	11	133	133	112	83	1.11	1.13
Tuberculosis of the central nervous system ..	(9) 12	(1) 1	(1) 6	(2) 5	(1) ..	(2) ..	(2)	{										4	4	2	2	0.03	0.02
Tuberculosis of intestines and peritoneum ..	(3) 30	(1) ..	..	2 (1) 13	.. 7	.. 7	(1) 1	.. ..	..	..	..	..	..	..	..	..	..	6	9	6	9	0.07	0.05
Tuberculosis of vertebral column ..	(2) 14	.. ..	.. ..	.. 2	(1) 6	(1) 3	2 ..	1 ..	53	3	7	4	14	8	10	6	1	3	4	2	5	0.03	0.02
Tuberculosis of other bones and joints ..	.. 25	.. ..	.. 5	.. 10	.. 3	.. 6	1 ..	.. ..	..	..	..	..	..	..	..	..	..	4	12	2	7	0.06	0.07
Tuberculosis of other organs	(5) 66	.. ..	(1) 8	(2) 29	(1) 17	.. 10	1 ..	(1) 1	..	..	..	..	..	..	..	..	..	17	11	17	21	0.16	0.14
TOTALS ..	†(65) 608	(3) 2	(3) 26	(8) 123	(15) 157	(20) 204	(15) 84	(1) 12	332	4	7	4	15	73	131	86	12	167	173	141	127	1.46	1.43		

†Cases coming to the knowledge of the M.O.H. otherwise than by notification (not included in totals of notifications).

TUBERCULOSIS.

1936	STATISTICS				Pulmonary	Non-pulmonary	Total 1937	
657	New cases	...	...	...	507	166	673	
3,562	Total on register	...	...	...	2,662	989	3,651	
3,135	Dispensary patients	...	...	...	2,473	828	3,301	
8,386	Dispensary attendances	...	...	...	—	—	8,156	
*530	Sanatoria discharges	...	...	...	406	96	502	
334	Deaths	...	...	...	279	53	332	

* Excluding observation cases.

Age periods	New cases				Deaths					
	pulmonary		non-pulmonary		pulmonary		non-pulmonary			
	M.	F.	M.	F.	M.	F.	M.	F.		
0- 1	2	—	2	1	1	—	2	1
1- 5	3	3	9	14	—	—	5	6
5-10	17	18	23	15	—	—	2	3
10-15	16	16	13	13	1	—	4	5
15-20	30	40	7	8	10	16	2	2
20-25	26	40	9	12	16	23	1	3
25-35	53	65	10	12	33	39	1	5
35-45	41	36	—	7	27	22	4	—
45-55	35	21	1	4	25	19	—	3
55-65	23	12	—	3	28	8	1	2
65 and upwards	4	6	2	1	6	5	1	1
Totals	250	257	76	90	147	132	23	30
Ratio of non-notified deaths				...	...	8·6	26·4	4·6	2·5	

The clinical work of this section is under the supervision of Dr. C. J. Campbell Faill, assisted by Dr. J. Scott Currie and Dr. Constance Ham.

On the 18th August, 1937, the Tuberculosis Dispensary was closed and the department was transferred to one wing of the new Central Clinic. Opportunity was taken of this change to effect some re-organisation of the activities of the tuberculosis scheme.

The re-organisation was considered along the following lines :—

- (1) the early examination and diagnosis of cases ;
- (2) the careful selection of cases for sanatorium treatment ;
- (3) the rigorous following-up and examination of contacts, especially those contacts of positive cases ;
- (4) after-care.

(1) *Early examination of cases.*

There is no doubt that the failure to get cases diagnosed early is due to the following two reasons among others—

- (a) the insidious nature of the disease in many cases causing patients to delay in seeking advice, and
- (b) the real fear which people have of being stigmatised as tuberculous, with all the social and economic difficulties which follow.

There is a feeling among general practitioners of hesitation to send a patient to a tuberculosis clinic when only very trivial symptoms are present, because of the alarm which the titles 'tuberculosis officer' and 'tuberculosis clinic' arouse in the patient. In an attempt to overcome this difficulty the Health Committee agreed (i) that the titles 'tuberculosis officer' and 'tuberculosis clinic' should be discontinued in favour of the terms 'chest physician' and 'chest clinic'; and (ii) to give medical practitioners increased facilities for X-ray examination of the chest.

X-ray examination will frequently show the presence of disease before physical examination. It is not intended by this that there should be indiscriminate X-raying of people. The response of the general practitioners to these facilities has been most gratifying.

(2) *Careful selection of cases for sanatorium treatment.*

Cases for admission to sanatorium can be regarded in two ways :—

- (a) Those for which arrest of disease is hoped. That is, they must be early cases or cases not quite so early but which are suitable for special treatment such as artificial pneumothorax; and
- (b) Advanced cases which are removed from their homes as a public health measure to lessen the risk of spread of infection (but for whom there is no hope of arrest of disease).

The balance between these two is difficult, but it is considered that the advanced case should not occupy an expensive sanatorium bed unless there are clear and definite risks in the patient's home of spread of infection to children. In deciding as to the necessity of removal to hospital or sanatorium of advanced cases, spread of infection to adults in the home or to marital partners should be regarded of secondary importance to the risk of infection to children and adolescents, and this policy should be strictly adhered to.

In the selection of cases for sanatorium, close co-operation between the medical staff of the sanatorium and the chest physicians is essential. The chest physicians should work both at the clinic and at the sanatorium, and should also have observation beds.

(3) *Contacts.*

Ideally, each contact should be examined clinically and radiologically at intervals during the whole period of risk of infection.

This is not practicable, both on account of time and expense and the fact that year by year the number of contacts increase. As practical method of dealing with contacts was adopted thus :— contacts of positive cases to be X-rayed as routine, other contacts whenever possible ; Mantoux testing of child contacts to be tried so as to segregate as far as possible those contacts which require repeated examination and X-ray ; the primary examination of all contacts to be done by the chest physician ; the follow-up of school contacts to be done by the school medical staff at a special session from list of names to be forwarded to the school medical officer by the chest physician ; they can be again referred to the chest physician when necessary for further detailed examination ; the same system to be adopted in relation to the maternity and child welfare department.

(4) *After care and special arrangements.*

Many of the present arrangements were considered satisfactory and extension was recommended chiefly in the following directions : (1) boarding out of children when mother goes to sanatorium, and clothing grants to enter sanatorium and on discharge are covered by the After-care Committee ; (2) sending of cases to training colonies ; with regard to (3) propaganda amongst factories and workshops, a satisfactory connection exists between certain large factories in the city and the chest clinic. It was suggested that intensive propaganda be directed to smaller workplaces. Information could be supplied by foremen and forewomen, e.g., foremen to give names of employees absent with chronic illness together with name of panel doctor.

After care work should be regarded in the general policy as important as sanatorium treatment, which it should follow uninterruptedly. Once a man has had pulmonary tuberculosis and arrest has taken place, at a conservative estimate, he cannot compete with safety to his health in the open labour market for at least two years, except in very favourable occupations which are few in number. Even for the man in whom arrest has not taken place, by subsidized labour he can do a great deal of useful work for a number of years with benefit to his family and lessened risk of infection.

Cases.

During the year 673 fresh cases of tuberculosis came to the knowledge of the department, an increase of 16 on last year. Of these, 608 were duly notified under the regulations. Pulmonary cases numbered 507 or 75·3 per cent. of the total. There was no instance of wilful neglect or refusal to notify cases of tuberculosis.

Sanatorium admissions decreased during the year by 19 to 730. With the exception of two cases all were accommodated in local sanatoria. The total number of names on the tuberculosis register on December 31st was 3,651, an increase of 89 on the number registered on the same date last year and 3,301 of these cases were under supervision at the tuberculosis dispensaries. Thirty-three grants of milk were made to tuberculous patients on the recommendation of the chest physician.

Deaths.

The number of deaths from all forms of tuberculosis dropped by five to 332, including 279 cases of respiratory tuberculosis. These included 39 deaths of persons whose tubercular condition had not previously been notified—22 pulmonary cases (seventeen males and five females) and 17 non-pulmonary cases (five males and twelve females) giving a ratio of non-notified tuberculous deaths to total tuberculous deaths compared with last year of :—

	Males.		Females.	
	1936	1937	1936	1937
Pulmonary ...	1 in 13·8	1 in 8·6	1 in 9	1 in 26·4
Non-pulmonary	1 in 2·6	1 in 4·6	1 in 1·9	1 in 2·5

Comparative statistics.

City	Per 1,000 population	
	Case rate	Death rate
Birmingham	1·08	0·80
Liverpool	2·24	0·92
Manchester	1·90	1·03
Sheffield	2·14	0·79
Leeds	1·55	0·83
Bristol	1·62	0·80
Bradford	1·22	0·77
West Ham	1·4	0·79
Nottingham	1·50	0·99
Portsmouth	1·06	0·62
Cardiff	1·89	0·99

The tuberculosis case and death rates for Bristol last year are shown compared with similar rates for ten industrial towns of comparable dimensions. Bristol occupies much the same position in this table as in former years. The local case rate increased by 0·04 to 1·62 per 1,000 population and the death rate decreased by 0·02 to 0·80 per 1,000 population.

Public Health (Prevention of Tuberculosis) Regulations, 1925.

No case requiring action under these regulations came to the notice of the department during the year.

Public Health Act, 1925. Section 62.

The necessity of applying to a court for an order under this Act did not arise during the year.

Boarded-out tuberculosis cases.

The Public Assistance Committee continue to co-operate with the health department in the boarding-out of homeless patients suffering from tuberculosis and this co-operation has proved of great benefit to patients who have completed a period of treatment in sanatoria. Suitable accommodation is found by the chest clinic staff. The relieving officer arranges for the payment of agreed board and lodging terms. During 1937, arrangements were made to board out five patients ; and at the end of the year the number of patients boarded out under this scheme was 15.

After-care of tuberculosis cases.

Care and after-care work in Bristol is carried out by a voluntary committee consisting of representatives of the Corporation, Insurance Committee, Public Assistance Committee and various other organisations of a civic and social character. This committee works in close co-operation with the public health department.

Nature of assistance granted.

Medical treatment alone is not sufficient for tuberculous patients ; assistance is frequently required both before and after treatment in a sanatorium, and to render help where possible in such cases is one of the functions of a care committee. Grants of clothing, footwear, bedsteads and bedding, financial assistance for various purposes such as payment of travelling expenses, rent, assistance in the home, etc., enquiries and help where possible in respect of housing conditions. These are some of the ways in which the committee renders assistance.

Many of the applications for clothing and footwear are from patients who have been recommended a course of sanatorium treatment but are unable to provide all the clothing, etc., required. The provision of bedsteads and bedding to enable patients to sleep alone is well worth while as it acts as a preventive measure to other members of the family.

Provision of employment for patients—workshop scheme.

The most difficult problem in connection with the after-care of tuberculous persons is the all-important task of finding or providing suitable employment. It is no easy matter for semi-disabled patients to obtain for themselves occupations of a suitable character.

In an endeavour to deal with this problem the Voluntary Care Committee established in 1927 a workshop at the rear of the dispensary in Portland Square where three patients were engaged in the manufacture of portable wooden buildings. In 1933 through the generosity of certain citizens a larger and more suitable workshop was erected at Southmead and presented to the committee. This new workshop has provided employment for an average of ten male patients, who are engaged in the manufacture of garden sheds, garden shelters, greenhouses, garages, garden frames, dog kennels, etc.

It must be remembered that the persons employed are "sub-standard"; were they fit to compete in the open labour market the problem of finding them "sheltered occupations" would not arise. It is apparent that their physical condition is such that in performing a given task considerably longer time is required than by a healthy workman.

A scheme of this nature cannot be expected to be entirely self-supporting and so far the workshop has had to be subsidised to the extent of roughly £1 per week per patient employed.

Kiosk.

In November, 1934, with the consent of the Health Committee, a kiosk was established at Ham Green sanatorium for the sale of tobacco, cigarettes, stationery, wrapped confectionery, and sundry other articles approved by the medical superintendent, to patients, staff and visitors.

In addition to finding employment for an ex-sanatorium patient the kiosk is providing a much needed service at the institution.

Clinic for diseases of the chest.

1936	Examinations and Attendances	1937
4,613	Total number of examinations	5,197
2,114	Total attendances of school children	2,004
591	Total injections	520
526	Artificial pneumothorax	531
5,802	No. of visits to patients by tuberculosis nurses and health visitors	5,179
96	No. of cases seen by consulting surgeon	86
140	No. of attendances of cases seen by consulting surgeon	132
74	No. of cases seen by ear, nose and throat surgeon	53
111	No. of attendances of cases seen by ear, nose and throat surgeon	90
1,068	No. of attendances for ultra-violet light treatment	1,116

Eight hundred and seventy three (873) children of school age were examined at the dispensary during the year. Of these, 442 were old cases attending for re-examination and 431 were new cases. Of the latter, 22·7 per cent. were diagnosed as definite cases of tuberculosis, 1·3 per cent. as suspects, and 76 per cent. as non-tuberculous. The total number of examinations of school children was 1,317.

Of the total deaths in the city from all forms of tuberculosis, 39·5 per cent. occurred in sanatoria or hospitals controlled by the public health authority.

For many years past the Health Committee has loaned shelters to tubercular patients who possess suitable gardens for their erection. These shelters are regularly inspected and kept in repair. At the end of the year seven shelters were in use.

The work of the chest clinic during 1937.

DIAGNOSIS	PULMONARY.				NON-PULMONARY.				TOTAL.				GRAND TOTAL.
	adults		children		adults		children		adults		children		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
A.—NEW CASES examined during the year (excluding contacts) : (a) Definitely tuberculous (b) Diagnosis not completed (c) Non-tuberculous	154	168	14	23	24	29	35	20	178	197	49	43	467
	..	..	..	..	..	..	..	..	2	..	2	6	10
	..	..	..	..	..	..	..	..	171	188	89	68	516
B.—CONTACTS examined during the year :— (a) Definitely tuberculous (b) Diagnosis not completed (c) Non-tuberculous	11	7	5	4	..	1	3	3	11	8	8	7	34
	..	..	..	..	..	..	..	..	88	160	123	125	496
C.—CASES written off the dispensary register as :— (a) Recovered (b) Non-tuberculous	12	11	2	1	4	3	4	6	16	14	6	7	43
	..	..	..	..	..	..	..	..	263	351	221	197	1032
D.—NUMBER OF CASES on dispensary register on December 31st :— (a) Definitely tuberculous (b) Diagnosis not completed	1167	1036	154	116	203	234	229	162	1370	1270	383	278	3301
	..	..	..	..	..	..	..	..	2	..	2	6	10

1. Number of cases on dispensary register on January 1st ..	3,147	2. Number of cases transferred from other areas and cases returned after discharge under head 3 in previous years ..	42
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of" ..	96	4. Cases written off as dead during the year (all causes) ..	230
5. Number of attendances at the dispensaries (including contacts) ..	8,156	6. Number of insured persons under domiciliary treatment on 31st December ..	476
7. Number of consultations with medical practitioners : (a) Personal 76 (b) Other 1,731		8. Number of visits by tuberculosis officers to homes (including personal consultations) ..	578
9. Number of visits by nurses or health visitors to homes for dispensary purposes	*5,179	10. Number of : (a) Specimens of sputum, etc., examined 1,125 (b) X-ray examinations made in connection with dispensary work 1,631	
11. Number of "recovered" cases restored to dispensary register and included in A (a) and A (b) above	5	12. Number of "T.B. plus" cases on dispensary register on December 31st	785

* Including Public Health (Tuberculosis) visits.

**Immediate results of treatment of definitely tuberculous patients
discharged from residential institutions during 1937.**

Classification on admission to the Institution.		Condition at time of discharge.	Duration of residential treatment in the institution.															Grand Totals
			Under 3 months			3—6 months.			6—12 months.			More than 12 months			Totals			
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS	Class T.B. minus.	Quiescent	18	28	1	25	19	22	5	4	9	3	3	1	45	54	33	136
		Not quiescent ..	2	7	..	3	5	2	2	3	..	..	1	..	7	16	2	25
		Died in institution	2	3	..	..	..	..	1	1	..	..	1	..	3	5	..	8
	Class T.B. plus group 1.	Quiescent	2	1	..	5	3	..	3	1	..	1	..	..	11	5	..	16
		Not quiescent ..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group 2.	Quiescent .. ..	..	2	..	11	5	..	10	4	..	1	1	..	22	12	..	34
		Not quiescent ..	3	3	..	3	..	..	3	3	..	..	1	..	9	7	..	16
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group 3.	Quiescent	4	1	..	7	3	..	7	2	..	4	3	..	22	9	..	31
		Not quiescent ..	13	15	..	19	23	..	23	11	..	11	5	..	66	54	..	120
		Died in institution	14	5	..	10	13	..	8	9	..	7	5	..	39	32	..	71
TOTALS (Pulmonary)			56	65	1	83	72	24	62	38	9	27	20	1	228	195	35	458
NON-PULMONARY TUBERCULOSIS	Bones and joints.	Quiescent .. ..	..	..	1	2	..	2	..	5	5	1	6	9	1	14	24	
		Not quiescent ..	..	..	..	..	1	..	1	1	..	..	..	..	1	2	..	3
		Died in institution	..	..	..	..	..	..	..	1	1	1	..	1	1	1	2	4
	Abdominal	Quiescent	1	3	3	3	1	12	..	..	3	..	..	2	4	4	16	24
		Not quiescent ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1
		Died in institution	..	2	..	1	..	..	..	..	..	..	..	..	1	2	..	3
	Other organs	Quiescent	2	..	..	2	1	2	..	..	..	..	..	1	4	1	3	8
		Not quiescent ..	1	..	..	1	..	..	..	..	..	..	..	..	2	..	..	2
		Died in institution	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1
	Peripheral glands	Quiescent	1	..	1	1	..	12	..	..	1	..	..	..	2	..	14	16
		Not quiescent ..	1	..	..	..	..	1	..	..	..	..	..	..	1	..	1	2
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTALS (Non-pulmonary) ..			6	5	7	10	3	29	3	2	10	6	1	10	25	11	52	88

**Results of observation of doubtfully tuberculous cases discharged
from residential institutions during 1937.**

Diagnosis on discharge from observation.	Pulmonary tuberculosis						Non-pulmonary tuberculosis						Totals.		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Tuberculous	*3	†2	...	...	...	10	...	...	...	...	...	1	3	2	11
Non- tuberculous	2	3	2	15	13	21	...	3	2	...	5	19	17	24	44
Doubtful	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	5	5	2	15	13	31	...	3	2	...	5	20	20	26	55

Including : * 3 deaths (1 abscess of lung, 1 cardiac failure, 1 lobar pneumonia, pleural effusion).

† 1 death (1 (a) Pulmonary embolus, (b) thrombosis left leg, (c) carcinoma recti).

Sanatoria available for in-patient treatment, 1937.

	No. of Beds	Admitted			Discharged or Transferred			Died		
		M.	F.	T.	M.	F.	T.	M.	F.	T.
Pulmonary—early cases :										
Winsley Sanatorium, nr. Bath	58	54	64	118	51	63	114	2	1	3
Pulmonary and non-pulmonary (early and advanced cases).										
*Ham Green Sanatorium ...	160	170	173	343	134	108	242	42	53	95
*Southmead Hospital ...	—	74	55	129	57	48	105	23	10	33
Pulmonary and non-pulmonary —children (under 16).										
*Frenchay Park Sanatorium,	96	68	67	135	78	56	134	2	1	3
Non-pulmonary cases.										
Cossham Hospital ...	9	—	3	3	2	—	2	—	—	—
TOTALS ...	323	366	362	728	322	275	597	69	65	134
Cases admitted to and discharged from outside institutions		Admitted			Discharged			Died		
		M.	F.	T.	M.	F.	T.	M.	F.	T.
Pulmonary.										
Papworth T.B. Colony ...	...	1	—	1	1	1	2	—	—	—
Alton ...	...	1	—	1	—	—	—	—	—	—
Totals ...	...	2	—	2	1	1	2	—	—	—
		368	362	730	323	276	599	69	65	134

* Institution belonging to the Council.

Notifications and deaths from pulmonary and other forms of tuberculosis, 1927-1937.

Year	Cases, deaths, with case rate and death rate per 1,000	Pulmonary tuberculosis	Other forms of tuberculosis
1927	Notifications, etc. ... Deaths	783 (2·28) 397 (1·03)	180 (0·46) 67 (0·17)
1928	Notifications, etc. ... Deaths	704 (1·80) 338 (0·86)	177 (0·45) 51 (0·13)
1929	Notifications, etc. ... Deaths	620 (1·58) 402 (1·02)	177 (0·45) 63 (0·16)
1930	Notifications, etc. ... Deaths	610 (1·55) 396 (1·01)	106 (0·27) 57 (0·14)
1931	Notifications, etc. ... Deaths	613 (1·53) 358 (0·89)	152 (0·38) 48 (0·12)
1932	Notifications, etc. ... Deaths	506 (1·25) 294 (0·73)	168 (0·42) 40 (0·10)
1933	Notifications, etc. ... Deaths	540 (1·34) 336 (0·82)	168 (0·41) 54 (0·13)
1934	Notifications, etc. ... Deaths	505 (1·23) 301 (0·73)	169 (0·41) 52 (0·12)
1935	Notifications, etc. ... Deaths	494 (1·20) 293 (0·71)	150 (0·36) 36 (0·09)
1936	Notifications, etc. ... Deaths	505 (1·22) 292 (0·71)	152 (0·36) 45 (0·11)
1937	Notifications etc. ... Deaths	507 (1·22) 279 (0·67)	166 (0·40) 53 (0·13)

Deaths from all forms of tuberculosis occurring in 1937 classified according to occupation.

Occupation	Deaths	
	Number	Percentage of total deaths
House workers ...	72	21·39
Labourers & dockers	35	10·54
Shop assistants, etc.	16	4·82
Outdoor workers ...	10	3·01
No occupation ...	15	4·51
Clerks, typists, etc.	23	6·93
School age ...	18	5·42
Various ...	14	4·21
Metal workers, etc.	5	1·5
Infants ...	17	5·12
Food trades, etc. ...	12	3·61
Tobacco workers ...	5	1·5
Seamen, etc. ...	4	1·2
Printers, etc. ...	10	3·01
Leather workers ...	8	2·41
Wood workers ...	9	2·71
Tailors, etc. ...	7	2·1
Transport, motor & horse ...	11	3·31
Domestic servants...	16	4·82
Boxmakers ...	3	0·9
Decorators ...	3	0·9
Warehousemen ...	5	1·5
Railway employees	6	1·8
Engineers, mechanics	8	2·41

VENEREAL DISEASES.

Average 1931— 1935	1936	Treatment Centre.	1937		
1,000	1,090	New patients :	Males 880	Females 234	Total 1,114
232	162	Syphilis			166
26	18	Syphilis (congenital—included above)			25
5	17	Soft chancre			3
467	556	Gonorrhoea			600
386	355	Non-venereal			345
2,388	1,724	Total patients :	1,450	469	1,919
51,848	50,412	Total attendances :	40,923	12,039	52,962
16,643	16,417	Individual attention by M.O.	11,200	4,600	15,800
35,205	33,995	Irrigation, dressing, etc. ...	29,723	7,934	37,162
928	732	Under treatment end of year :	531	210	741
716	450	Syphilis	258	139	297
...	6	Soft chancre	2	...	2
211	255	Gonorrhoea	254	65	319
...	...	Non-venereal	17	6	23
12,302	14,875	Total injections : ... ..	...	...	11,658
6,277	7,427	Arsenobenzene compounds	...	...	5,807
6,025	7,448	Bismuth ... ..	...	...	5,851
79	69	Inpatients :	34	25	59
2,708	2,503	Inpatient days	726	1,146	1,872
4,059	5,428	Pathological specimens examined :	...	...	6,482
40	41	At centre ... ..	...	...	25
4,019	5,387	At approved laboratory ...	...	...	6,457

There has been no change in the local arrangements for the treatment of venereal disease, as set forth in my report for 1930. In the table which follows, the medical director of the treatment centre (S. Hardy Kingston, M.B., Ch.B., D.P.H.) gives full particulars of the numbers, types, treatment, pathological examinations and attendances from each area for the year 1937. The number of new patients showed an increase of 24 on the previous year while the number of patients treated increased by 195. This affected the attendances which increased by 2,550 to 52,962 including attendances made by 345 non-venereal cases under the routine system of examination whenever possible of members of the family of true cases. A large proportion of these family examinees were found to be free of the disease. At the end of the period under review 741 patients remained under treatment at the centre. During the year intravenous injections of salvarsan decreased by 1,620 and 59 patients were admitted to the institution for residential treatment (25 women and 34 men).

Twenty-six (26) medical practitioners in the city are recognised for the purpose of obtaining free of charge from the Corporation approved substitutes for salvarsan and specimens were submitted by private practitioners for examination at the laboratory of the department of preventive medicine at the Bristol University.

The staff at the treatment centre remains as previously published, viz. :—medical director, four assistant medical officers, one sister, two nurses, two domestic staff and two orderlies.

Statement showing the services rendered at the Treatment Centre during the year, classified according to the areas in which the patients resided.

County or County Borough	Cases from each area dealt with during the year for the first time and found to be suffering from—					Total attend- ances of all patients resid- ing in each area.	Aggregate number of 'in- patient days' of all patients residing in each area.
	Syphilis	Soft Chancres	Gonorrhoea	Non- Venereal	Total		
Bristol ...	123	3	441	297	864	51,159	1,533
Cardiff ...	—	—	1	2	3	3	—
Manchester ...	—	—	1	—	1	5	—
Stafford ...	—	—	1	—	1	1	—
London ...	—	—	5	2	7	10	—
Stoke ...	—	—	1	—	1	1	—
Bolton ...	—	—	1	—	1	1	—
Swansea ...	—	—	—	—	—	3	—
Birmingham ...	—	—	3	1	4	4	—
Bath ...	1	—	1	1	3	41	—
Worcester ...	—	—	—	1	1	9	—
Derby ...	—	—	1	—	1	1	—
Luton ...	—	—	—	—	—	1	—
Gloucester ...	—	—	—	1	1	8	—
Somerset ...	7	—	43	15	65	640	104
Gloucestershire ...	8	—	35	18	61	966	136
Wiltshire ...	2	—	6	2	10	69	65
Devon ...	—	—	1	1	2	5	—
Cornwall ...	2	—	—	—	2	6	34
Oxford ...	—	—	2	—	2	24	—
Lancashire ...	—	—	2	—	2	2	—
Huddersfield ...	—	—	1	—	1	1	—
Surrey ...	—	—	1	—	1	1	—
Burnley ...	—	—	1	—	1	1	—
Totals ...	143	3	548	341	1035*	52,962	1,872

*These totals do not include cases known to have received treatment at other centres for the same infection.

OTHER DISEASES.

Cancer.

** Deaths, death-rates and percentage in age groups.*

1936		1937		Age Groups.				
				—15	—25	—45	—65	65+
685	No of deaths ...	671	Male ...	2	2	17	116	171
			Female	1	2	22	148	190
1·65	Rate per 1,000 population ...	1·62	% ...	0·45	0·59	5·81	39·35	53·80

* Registrar General's figures.

Cancer, which again ranks as the second greatest cause of mortality, was responsible for 671 or 13·99 per cent. of the total deaths registered in Bristol during 1937, 14 less than the number recorded last year; 363 occurred amongst females and 308 in males. The table above illustrates the fatality percentage in age groups—93 per cent. of the deaths occurring in persons over 45 years of age. The death rate for the disease has decreased by 0·03 to 1·62 per 1,000.

I am indebted to Dr. F. G. Bergin, honorary director, for the following report on the work of the Bristol National Radium Centre during 1937.

Consequent upon the amalgamation of the Bristol Royal Infirmary and the Bristol General Hospital in June, 1937, the National Radium Centre was transferred from the Royal Infirmary to the General Hospital and a joint radiological department was established.

There is a Joint Radiological Committee. This is composed of certain members of the two hospital committees, representatives of the medical faculty from each institution and from the University and the honorary staff of the joint radiological department.

The medical staff of the joint radiological department consists of the hon. director and two honorary radiologists, a whole-time radiotherapist (who is radium officer to the Bristol Radium Centre) and a whole-time diagnostician.

At the General Hospital, in addition to the two wards set aside for the centre, the department has control of an out-patient clinic room, an out-patient treatment room for radium cases, a radium safe, a mould room, secretarial offices and a consulting room for paying patients in addition to the deep and superficial X-ray treatment rooms and the diagnostic unit.

The policy has been to transfer all X-ray therapy cases from the Royal Infirmary to the General Hospital where new plant is shortly to be installed.

Two wards comprising nine male beds and eleven female beds have been set aside for the use of radio-therapeutic cases and in a few cases it is possible to use other beds for X-ray cases. As a

result of the limited allocation of beds solely for radio therapeutic work and such cases being treated only in these beds, a waiting list has been the inevitable result. This is likely to be altered in the future as every endeavour is being made to provide increased bed accommodation. As a result of the fusion of the hospitals and the formation of a combined centre, patients are now passing through the centre whereas previously they had been treated by the surgeons in surgical beds. Whenever possible, to ease the pressure in the wards patients are treated as out-patients.

The provision of suitable accommodation has had one desired effect, namely the increased number of out-patients who are now able to attend daily for radium treatment. Provision has been made for the after-care of patients as out-patients and the facilities for the follow-up of patients has also been improved.

Two radiotherapeutic clinics are held weekly, the honorary director, one of the honorary radiologists and the radiotherapist being present. New cases are then seen, treatment discussed and the ordinary follow-up is carried out. Co-operation is being obtained with other members of the honorary staffs, e.g., certain gynaecological and surgical clinics are held in the department; the member of the honorary staff in charge of the case is present to discuss all matters pertaining to it. Radium patients are now usually treated either by personnel of the radiological department or by the surgeon in conjunction with one or more members of the radiological department. This co-operation promises to be even more effective in the future.

Cases are admitted jointly under one of the honorary surgeons or physicians and one of the honorary radiologists. Arrangement for the admission to radiological beds is carried out by the radiotherapist in co-operation with the resident surgical officer. No Bristol patient is admitted unless first seen by a member of the honorary staff under whom he is subsequently admitted. Patients who live too far away to make the journey to Bristol for examination first are admitted under the honorary surgeon or physician on duty on the day they are admitted. In these cases treatment is not carried out until they have been seen by him. Although the available beds are, at present, inadequate, chiefly in view of the large number of cases coming from outside the Bristol area, there is a hope that the number will be increased at a not too far distant date. The increased efficiency in allocating beds solely for radiological purposes is shown in the number of in-patient days over previous years.

In-patient days for 1936=2,719, of which 2,257 malignant and
462 non-malignant.

„ „ „ 1937=4,719, of which 4,136 malignant and
583 non-malignant.

Jan.—June (inc.) B.R.I. = Mal. 528. Non-mal. 212.

June—Dec. (inc.) B.G.H. = Mal. 3,608. Non-mal. 371.

Patients continue to be referred from the municipal and voluntary hospitals of the city for radiological treatment. The radiotherapeutic centre has been able to provide for certain patients who are not bedridden to be admitted to the Queen Victoria Jubilee Convalescent Home and arrangements are then made for them to attend the department daily for treatment. The follow-up clinics at Trowbridge and Swindon are still held once a month by the full-time radiotherapist.

The amount of radium loaned by the Commission—489·28 mgs.

„	„	„	owned by the General Hos.	420	„
„	„	„	„ „ Royal Infirmary	200	„

The average availability per day for National radium = 398·87 mgs. (81·5%). This figure is the amount of radium which is actually in the safe at 5·0 p.m., and therefore frequently includes radium required for use the next day. Radium is counted as being available until the morning on which the patient is about to commence treatment.

The increase of the availability last year was partly due to the period of transition when the work of the department was being re-organised.

The total amount of radon used during 1937 was 314·6 millicuries which was obtained from the Radium Institute, London, as in previous years.

The total number of patients treated with radium during 1937 was 256, consisting of 147 malignant cases, 55 non-malignant cases and 54 cases of rodent ulcer. The number of new patients applying for treatment was 725 (malignant 410, non-malignant 248, rodent ulcer 67). Of these, 221 were treated with radium (131 malignant, 50 non-malignant, 40 rodent ulcer).

The Joint Radiological Committee is satisfied with the organisation, management and progress of the centre.

Statistics, 1937.

	Referred for radiological treatment			Accepted for radiological treatment		
	Bristol	Not Bristol	Total	Bristol	Not Bristol	Total
Malignant ...	202	210	412	198	193	391
Non-malignant*	168	83	251	165	69	234
Rodent ulcers...	40	27	67	36	26	62
Totals ...	410	320	730	399	288	687

* The majority of these patients were non-malignant skin conditions who received superficial X-ray therapy.

This information is amplified as regards malignant cases to indicate sex, age groups and survival rates of all such patients treated at the centre during the past five years.

Malignant cases only.

Regions	Year	Referred	Sex (of treated cases)	Age groups.										Alive at end of 1937		Alive at end of 2 years		Alive at end of 3 years		Alive at end of 4 years				
				0 / 20	20 / 30	30 / 40	40 / 50	50 / 55	55 / 60	60 / 65	65 / 70	Over 70	No.	Per- cent- age	No.	Per- cent- age	No.	Per- cent- age	No.	Per- cent- age				
				+1 P.P.	+1 P.P.	(?Age) 2 (?Age)	(Age) 2 (Age)	not known	8 / 1	1 / 1	1 / 1	3 / 2	22	71	5	62	3	37	1	12	1	12		
Mouth and tongue	1933	17	12	M. 11 F. 1	—	—	—	—	1	2	4	1	3	1			7	58	6	50	4	33	4	33
	1934	17	10	M. 7 F. 3	—	—	—	—	2	1	1	1	3	1			5	50	3	30	1	10	—	—
	1935	21	20	M. 16 F. 4	—	—	—	1	1	—	3	5	7	1			12	60	4	20	—	—	—	—
	1936	24	23	M. 21 F. 2	—	—	—	2	—	—	3	8	5	3	2		9	39	—	—	—	—	—	—
	1937	59	41	M. 34 F. 7	2	—	—	(Age) 2 (Age)	not known	4 / 4 2 / 4	8 / 1	6	—	—	34	83	—	—	—	—	—	—	—	—
Upper air passages	1933	9	8	M. 5 F. 3	—	—	—	1	1	1	1	—	1	—			5	62	3	37	1	12	1	12
	1934	11	10	M. 7 F. 3	—	—	—	—	—	2	1	1	3	1			5	50	3	30	1	10	—	—
	1935	17	14	M. 7 F. 7	—	—	—	2	1	3	2	1	1	—			2	15	2	15	—	—	—	—
	1936	10	9	M. 6 F. 3	—	—	—	1	—	1	2	1	—	—			—	—	—	—	—	—	—	—
	1937	43	31	M. 23 F. 8	+1 P.P. <td>(?Age) 2 (?Age)</td> <td>4</td> <td>—</td> <td>—</td> <td>2</td> <td>7</td> <td>5</td> <td>6</td> <td>—</td> <td>22</td> <td>71</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td>	(?Age) 2 (?Age)	4	—	—	2	7	5	6	—	22	71	—	—	—	—	—	—	—	—
Breast	1933	17	8	M. 0 F. 8	—	—	—	1	2	—	—	3	—	1			5	62	2	25	1	12	1	12
	1934	29	14	M. 0 F. 14	—	—	—	—	4	1	2	3	1	—			8	57	4	28	4	28	—	—
	1935	29	19	M. 0 F. 19	—	—	—	2	4	3	1	1	5	—			12	63	6	31	—	—	—	—
	1936	19	10	M. 0 F. 10	—	—	—	1	2	—	1	1	2	—			8	80	—	—	—	—	—	—
	1937	84	56	M. 0 F. 56	+6 P.P. <td>(?Age) 16 (?Age)</td> <td>6</td> <td>10</td> <td>7</td> <td>4</td> <td>6</td> <td>—</td> <td>—</td> <td>51</td> <td>91</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td>	(?Age) 16 (?Age)	6	10	7	4	6	—	—	51	91	—	—	—	—	—	—	—	—	—
Female genital	1933	41	33	F. 33	—	—	4	11	5	7	3	—	3	—			17	52	10	30	6	18	5	15
	1934	34	30	F. 30	—	—	3	8	6	6	3	2	2	—			22	73	13	43	12	40	—	—
	1935	40	33	F. 33	—	—	3	7	5	4	6	4	4	—			26	78	21	63	—	—	—	—
	1936	33	34	F. 34	—	—	6	10	4	3	7	2	2	—			14	41	—	—	—	—	—	—
	1937	80	69	F. 69	+3 P.P. <td>(?Age) 16 (?Age)</td> <td>11</td> <td>10</td> <td>13</td> <td>4</td> <td>8</td> <td>—</td> <td>—</td> <td>60</td> <td>85</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td>	(?Age) 16 (?Age)	11	10	13	4	8	—	—	60	85	—	—	—	—	—	—	—	—	—
Rectum and anus	1933	4	0	M. 0 F. 0	—	—	—	—	—	—	—	—	—	—			—	—	—	—	—	—	—	—
	1934	12	3	M. 3 F. 0	—	—	—	—	—	1	—	—	1	—			1	33	1	33	—	—	—	—
	1935	7	2	M. 1 F. 1	—	—	—	—	—	—	1	—	—	—			—	—	—	—	—	—	—	—
	1936	1	1	M. 1 F. 0	—	—	—	—	—	—	—	—	—	—			1	100	—	—	—	—	—	—
	1937	13	8	M. 5 F. 3	—	2	1	—	—	—	—	1	1	—	7	87	—	—	—	—	—	—	—	—
Lip	1933	18	15	M. 14 F. 1	—	—	—	—	—	1	—	4	5	—			13	87	10	66	8	53	8	53
	1934	16	15	M. 15 F. 0	—	—	—	—	—	—	1	4	2	8	—		10	66	7	47	6	40	—	—
	1935	24	22	M. 21 F. 1	—	—	—	2	3	1	2	5	8	1	—		19	86	17	77	—	—	—	—
	1936	17	17	M. 17 F. 0	—	—	—	1	—	1	2	5	8	—			15	88	—	—	—	—	—	—
	1937	30	23	M. 22 F. 1	—	—	—	2	3	3	—	5	9	—	22	96	—	—	—	—	—	—	—	—
Skins	1933	12	8	M. 6 F. 2	—	—	—	—	—	1	2	1	1	—			7	87	5	62	4	50	4	50
	1934	10	10	M. 8 F. 2	—	—	—	3	1	—	—	1	3	—			8	80	6	60	6	60	—	—
	1935	13	10	M. 8 F. 2	1	—	1	—	—	—	1	5	1	—			8	80	7	70	—	—	—	—
	1936	10	9	M. 6 F. 3	—	—	—	—	—	1	—	5	1	—			9	100	—	—	—	—	—	—
	1937	21	14	M. 9 F. 5	—	1	—	—	—	1	—	2	4	—	13	93	—	—	—	—	—	—	—	—
General	1933	25	15	M. 13 F. 2	1	—	1	2	2	2	1	2	1	—			6	40	3	20	3	20	3	20
	1934	52	31	M. 26 F. 5	—	—	—	3	2	5	7	4	1	—			14	45	8	26	5	16	—	—
	1935	59	39	M. 31 F. 8	—	—	—	2	5	8	9	2	2	—			19	47	10	25	—	—	—	—
	1936	15	6	M. 3 F. 3	—	1	—	1	—	—	1	—	2	—			2	23	—	—	—	—	—	—
	1937	69	49	M. 28 F. 21	+2 P.P. <td>(?Age) 3 (?Age)</td> <td>4</td> <td>3</td> <td>5</td> <td>1</td> <td>1</td> <td>2</td> <td>—</td> <td>36</td> <td>75</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td>	(?Age) 3 (?Age)	4	3	5	1	1	2	—	36	75	—	—	—	—	—	—	—	—	—
Hodgkin's, Myeloid Leukaemia's etc.	1937	13	13	M. 7 F. 6	—	2	3	—	—	—	2	—	—	10	77	—	—	—	—	—	—	—	—	—
	1933	143	99	M. 49 F. 50	1	—	1	3	6	7	12	8	11	7			60	39	39	27	26	26	26	
	1934	181	123	M. 66 F. 57	—	—	—	6	4	10	12	14	20	5			73	59	45	36	35	28	—	—
	1935	209	159	M. 84 F. 75	1	—	—	5	9	15	22	26	14	—			100	63	68	43	—	—	—	—
	1936	129	109	M. 54 F. 55	—	1	7	12	7	13	9	11	—	—			58	53	—	—	—	—	—	—
Totals	1937	412	304	M. 128 F. 176	+4 P.P. <td>(?Age) 7 (?Age)</td> <td>12</td> <td>12</td> <td>24</td> <td>21</td> <td>27</td> <td>13</td> <td>16</td> <td>245</td> <td>80</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td>	(?Age) 7 (?Age)	12	12	24	21	27	13	16	245	80	—	—	—	—	—	—	—	—	—

N.B.—Statistics for 1937 include patients treated with deep X-rays as well as radium. Those prior to 1937 include radium patients only.
P.P. = Private Patients, whose ages are not taken.

Influenza and respiratory diseases (excluding pulmonary tuberculosis).

Deaths and notifications at ages and in quarters.

1936 Rate per 1,000	Deaths	1937 Rate per 1,000	Un- der 1	1- 5	5- 15	15- 25	25- 45	45- 65	65-	To- tal 1937	Quarters			
											1st	2nd	3rd	4th
·13	Influenza ...	·25	5	3	1	2	11	35	47	104	88	6	2	8
·40	Bronchitis ...	·35	3	1	—	—	5	24	113	146	68	20	9	49
·61	Pneumonia ...	·52	39	16	5	2	20	68	67	217	79	38	24	76
·17	Other respiratory diseases ...	·21	—	3	1	1	6	27	50	88	38	28	14	8
1·31	Total ...	1·33	47	23	7	5	42	154	277	555	273	92	49	141
·94	Notifications Primary pneumonia ...	·73	57	64	26	16	46	63	34	306	119	61	31	95
·14	Influenzal pneumonia ...	·33	4	11	12	16	25	44	24	136	119	7	1	9
1·08	Total ...	1·06	61	75	38	32	71	107	58	442	238	68	32	104

Rate per 1,000 population.

	Bristol	England and Wales	Combined County Boroughs
Pneumonia— Attack rate ...	1·06	1·36	1·58
Influenza— Death rate ...	0·25	0·45	0·39

The group of diseases included in the table above showed an increase in the number of deaths, the increase being due to influenza deaths which rose from 53 to 104. The deaths from these diseases represent 11·7 per cent. of the total compared with 10·5 per cent. last year.

The death rate rose by 0·02 per 1,000—influenza by 0·12. The attack rate for pneumonia notifications fell by 0·02 to 1·06, and was 0·3 below that for the country as a whole. The influenza death rate was 0·2 less than the national rate.

If necessary, wards are set aside at Ham Green Hospital for the treatment of pneumonia where the home facilities for nursing are inadequate.

The mortality from respiratory diseases was, as usual, mainly amongst middle-aged and elderly people—77·6 per cent. of the total deaths being persons over 45 years of age. This ratio is less marked in pneumonia, the number of deaths in this age group falling to 62·2 per cent., mainly because of the pneumonia mortality amongst infants under five years of age, which accounted for 25·3 per cent. of the total pneumonia deaths.

Heart disease.

Deaths, death-rates and percentages in age groups.

	1933	1934	1935	1936	1937	Age groups, 1937			
						—15	—45	—65	65 +
No. of deaths	1,156	1,100	1,098	1,370	1,238	5	58	281	894
Death rate per 1,000 population ...	2·82	2·68	2·66	3·31	2·98	% 0·4	4·7	22·7	72·2

There were 1,238 deaths certified from heart disease during the year, 132 less than last year. As usual, more deaths were attributed to this disease than any other in the list of specified causes of death, the ratio being one in 3·8 of the total deaths registered. The death rate was 2·98 per 1,000 population compared with 3·31 in 1936, a decrease of ·33.

No less than 72·2 per cent. of the deaths classified to heart disease occurred amongst aged people over 65 years, or 2·2 per 1,000 of the total death rate (12·27).

PREVENTION OF BLINDNESS.

1936	STATISTICS at 31st March				1937
637	Blind persons on register	...	...	...	635
52	Registered during year	...	...	...	46
26	Resident pupils in school	...	...	...	25
61	Workers and adult pupils in workshops	...	...	...	68
7	Homeworkers	...	...	...	7
12	Women resident in hostel	...	...	...	12
	Blind persons visited by home teachers (not included above)	...	...	...
380	Unemployable blind assisted by grants	...	...	...	400
227	Exemption certificates held under Wireless Telegraphy (Blind persons' facilities)	...	...	...	265
339	Act, 1926 ...	...	...	...	370
29	Certificates granted during year	...	...	...	37

My report for 1930 described the administrative scheme made under the Local Government Act, 1929, for the welfare and training of blind persons, the arrangements made to co-ordinate the work

of the various committees of the Council and for securing the efficiency of the services delegated to voluntary associations.

The scheme as amended by the Council in July, 1936, provided for such financial assistance to be given to necessitous blind persons as may be necessary to ensure that they have an income of at least 20/- per week in the case of a single blind person, and 29/6 per week in the case of a married couple both of whom are blind. The Blind Persons Committee felt that the increase in the cost of living justified an increase in the scale and they therefore recommended that the scale of relief to necessitous blind persons be increased by 2/6 per week.

Blind home workers receive an augmentation of 10/- per week in addition to their earnings, and the increase of 2/6 per week was applied to these blind persons. In the case of blind persons employed in the workshops of the Bristol Royal Blind Asylum the wages of the blind workers were advanced by 4/- a week for men and by 2/6 per week for women.

The City Council adopted these recommendations as from 1st October, 1937.

During the year inspections were made of the services provided by the Bristol Royal Blind Asylum, including the workshops in Park Street and the hostel for blind women workers in Woodland Road to which unemployable and middle-aged blind women are now admitted.

The arrangements made by the Bristol Royal Blind Asylum for the registration, certification, employment, training and welfare of blind persons continue to be adequate and efficient. No new cases are added to the register before examination and certification in accordance with Form B.D.8, and practically all persons already on the register have now been re-examined by the ophthalmic surgeon.

During the year ended 31st March, 1937, the Royal Blind Asylum expended the sum of £10,218 13s. 4d. upon the education and training of blind persons and incurred expenditure amounting to £16,147 6s. 2d. for the provision of benefits to adult blind persons, towards which expenditure the Council contributed the sum of £9,456 together with £287 to meet the deficit upon the previous year's expenditure. The Council also expended a sum of £279 in respect of blind persons resident in the institutions of the Public Assistance Committee and paid a further sum of £538 in respect of services rendered to blind persons in the city by various organisations and for medical inspection of blind persons.

The General Manager of the Blind Asylum workshops reports that the principal item of interest during the past year has been the re-establishment of the work at the workshops and centre for adult blind welfare at Park Street. The premises have been entirely rebuilt and modernised and include extended workshops, kitchen and dining rooms, library, social club and offices. The provision of accommodation for general welfare work on a more convenient basis is a very welcome and useful one.

Blind Persons Clinic.

*Report by R. R. Garden, M.A., M.B., D.O.M.S., D.P.H.,
Certifying Ophthalmic Surgeon.*

During 1937, a total of 30 sessions was held, including 24 at the clinic and six periods of home-visiting for the purpose of examining invalids.

The number of individual examinations was 93, consisting of 65 new applicants and 28 cases under periodical observation. Of the new candidates, 46 were certified as blind persons, while 19 had too much sight to be accepted. The observation group includes those who at some previous examination had been advised to have treatment, or who were not certifiable as blind at the time but might become so later.

The following is a summary of the causes of blindness, as far as could be ascertained, in the new cases registered during the year :

Congenital and undetermined causes—

Congenital, hereditary and developmental	4
Myopic error	7
Glaucoma, primary	1
Cataract, primary	7
Other primary defects—detachment of retina	1
Tumour—intra-ocular	1

Infectious and bacterial—

Ophthalmia neonatorum	2
Syphilis (congenital)	2
Chronic septicaemia, auto-toxic, focal sepsis	7
Trauma—industrial	1
Trauma—non-industrial	1

General diseases—

Vascular diseases	5
Diseases of the central nervous system ...	4
Intracranial neoplasm	1
Diabetes	1

No information obtainable	1
	<hr/>
	46
	<hr/>

As mentioned in last year's report, the pupils leaving the partially-sighted departments of Carlton Park Special School and the Royal School for the Blind are followed-up and examined at intervals of six months, if resident in Bristol. As most of these ex-pupils are in situations, the sessions are held in the early evening. During the year four sessions were held for this purpose.

VII.—APPENDIX.

Statistical Tables.

1. Birth-rates, death-rates, analysis of mortality, maternal death-rates and case-rates for certain infectious diseases in the year 1937—England and Wales, London, 125 great towns, 148 smaller towns and Bristol.
2. Total deaths by cause and age in Bristol during calendar year 1937.
3. Principal causes of death with death rates and percentages.
4. Population, marriages, births, deaths, natural increase, infant mortality and maternal mortality for calendar year 1937 and previous nine years.
- 5 & 6. Quinquennial birth and death rates 1881 to 1937—Bristol and England and Wales.
- 7 & 8. Quinquennial infant and maternal mortalities 1881 to 1937—Bristol and England and Wales.
9. Infectious disease in Bristol—mean attack rates 1890 to 1937.

Medical Literature published in 1937.

Sectional Reports.

1. City Hospitals, Sanatoria and Institutions :—
Ham Green Hospital and Sanatorium.
Frenchay Park Sanatorium and Orthopaedic Hospital.
Southmead Hospital.
Babies' Home.
Stapleton Institution.
Eastville Institution.
Dental work in city hospitals and clinics.
2. Meteorological Report.
3. Department of Preventive Medicine.
4. Public Analytical Laboratory Report.

Table 1.—*Supplied by the Registrar General.*

Birth-rates, death-rates, analysis of mortality, maternal death-rates, and case-rates for certain infectious diseases in the year 1937.

(Provisional figures based on weekly and quarterly returns).

	Bristol	England and Wales	125 County Boroughs and great towns including London	148 Smaller towns (resident populations 25,000 to 50,000 at 1931 Census)	London Administra- tive County
	Rates per 1,000 population				
BIRTHS :					
Live	14.46	14.9	14.9	15.3	13.3
Still	0.57	0.60	0.67	0.64	0.54
DEATHS :					
All causes ..	11.55	12.4	12.5	11.9	12.3
Typhoid and para- typhoid fevers }	0.002	0.00	0.01	0.00	0.00
Smallpox ..	—	—	—	—	—
Measles ..	0.004	0.02	0.03	0.02	0.01
Scarlet fever ..	0.009	0.01	0.01	0.01	0.01
Whooping cough ..	0.04	0.04	0.04	0.03	0.06
Diphtheria ..	0.02	0.07	0.08	0.05	0.05
Influenza ..	0.28	0.45	0.39	0.42	0.38
Violence	0.49	0.54	0.45	0.42	0.51
NOTIFICATIONS :					
Smallpox ..	—	0.00	—	0.00	—
Scarlet fever ..	1.59	2.33	2.56	2.42	2.09
Diphtheria ..	0.76	1.49	1.81	1.38	1.93
Enteric fever ..	0.03	0.05	0.06	0.04	0.05
Erysipelas ..	0.42	0.37	0.43	0.34	0.44
Pneumonia ..	1.06	1.36	1.58	1.20	1.18
	Rates per 1,000 live births.				
Deaths under 1 year of age	46	58	62	55	60
Deaths from diarrhoea and enteritis under 2 years of age ..	1.5	5.8	7.9	3.2	12.0
MATERNAL MORTALITY:					
Puerperal sepsis	1.17	0.97	} Not available		
Others	2.50	2.26			
Total	3.67	3.23			
	Rates per 1,000 total births (i.e., live and still).				
MATERNAL MORTALITY.					
Puerperal sepsis	1.12	0.94	} Not available.		
Others	2.41	2.17			
Total	3.53	3.11			
NOTIFICATIONS : ..					
Puerperal fever }	7.21	13.93	17.59	11.52	4.15
Puerperal pyrexia }					14.34

CAUSES OF DEATH.		All Ages	0—	1—	2—	5—	15—	25—	45—	55—	75—	
ALL CAUSES		M. 2,376 F. 2,419	148 129	25 18	24 15	43 32	72 80	100 106	121 110	234 200	470 346	537 820
1 Typhoid and paratyphoid fevers		M. 1 F. ..	..	..	..	..	..	1	..	..	..	..
2 Measles		M. 1 F. 1	..	..	1 1	..	..	..	..	..	..	..
3 Scarlet fever		M. 2 F. 2	..	1	1	1	..	..	..	..	..	..
4 Whooping Cough		M. 12 F. 3	6 2	4 1	2	..	..	..	..	..	..	..
5 Diphtheria		M. 6 F. 4	..	..	1 3	4 1	..	..	..	..	..	..
6 Influenza		M. 59 F. 58	4 1	2	2	1	2	5	6	13	9	10
7 Encephalitis lethargica ..		M. 6 F. 5	..	..	..	1 1	1	2	..	..	1	2
8 Cerebro-spinal fever		M. 5 F. 2	..	2	..	..	1	2	..	1	..	..
9 Tuberculosis of respiratory system		M. 151 F. 132	1	..	..	..	26 39	35 40	28 21	25 20	27 8	9 4
10 Other tuberculous diseases ..		M. 24 F. 30	2 1	4 3	1 3	8 8	3 6	1 4	3	..	1	1
11 Syphilis		M. 10 F. 6	2 2	..	..	..	..	1	1	5	2	..
12 General paralysis of the insane, tabes dorsalis		M. 10 F. 5	..	..	..	..	..	..	2	4	3	..
13 Cancer, malignant disease ..		M. 308 F. 363	..	..	1	2	2	7	10	34	82	110
14 Diabetes		M. 31 F. 45	..	..	..	1	..	1	1	2	14	10
15 Cerebral haemorrhage, &c. ..		M. 123 F. 163	..	1	..	..	..	..	2	6	35	40
16 Heart disease		M. 633 F. 631	..	..	..	4 4	6 3	6	21	50	117	204
17 Aneurysm		M. 14 F. 12	..	..	..	1	..	..	..	4	6	2
18 Other circulatory diseases ..		M. 109 F. 113	..	..	..	..	..	..	..	8	25	35
19 Bronchitis		M. 90 F. 67	3 1	..	1	..	..	2	5	7	17	20
20 Pneumonia (all forms) ..		M. 107 F. 106	24 21	6 7	5 3	2 1	2	4	6	16	18	18
21 Other respiratory diseases ..		M. 34 F. 39	..	..	1	..	1	..	..	1	3	..
22 Peptic ulcer		M. 31 F. 17	..	..	..	2	..	2	1	5	4	9
23 Diarrhoea, &c.		M. 8 F. 18	1 7	1	2	1	..	1	..	1	3	1
24 Appendicitis		M. 14 F. 11	..	1	1	1	1	4	2	2	1	1
25 Cirrhosis of liver		M. 7 F. 3	..	..	..	..	..	..	1	1	1	1
26 Other diseases of liver, etc. ..		M. 9 F. 22	..	..	..	..	..	1	..	1	..	1
27 Other digestive diseases ..		M. 48 F. 37	1 1	2	1	1	2	3	5	11	11	10
28 Acute and chronic nephritis		M. 67 F. 73	..	..	..	1	1	2	4	6	13	25
29 Puerperal sepsis		F. 7	..	..	..	1	4	2	..	..	..	..
30 Other puerperal causes ..		F. 15	..	..	..	1	9	5	..	..	..	..
31 Congenital debility, premature birth, malformations, etc.		M. 98 F. 85	1 3	..	1	..	..	..	..	1	..	..
32 Scilly		M. 35 F. 65	..	..	..	..	..	..	..	1	3	31
33 Suicide		M. 25 F. 22	..	..	..	3 3	5	4	5	5	5	8
34 Other violence		M. 85 F. 71	5	2	1	10	11	12	2	11	21	6
35 Other defined diseases ..		M. 212 F. 185	9 7	2	4	6	12	8	18	20	38	53
36 Causes ill-defined or unknown		M. 1 F. 1	..	..	..	..	..	..	..	..	..	1

Table 3.

Compiled from figures supplied by Registrar General.

1937.

Principal causes of death during calendar year.

Death Rate per 1,000	DISEASE.	Net deaths in 1937	% to total deaths
·002	Typhoid and paratyphoid fevers ...	1	·02
·004	Measles	2	·04
·009	Scarlet fever	4	·08
·04	Whooping cough	15	·31
·02	Diphtheria	10	·21
·28	Influenza	117	2·44
·03	Encephalitis lethargica	11	·23
·02	Cerebro-spinal fever	7	·15
·68	Tuberculosis of respiratory system	283	5·90
·13	Other tuberculous diseases ...	54	1·13
·04	Syphilis	16	·33
·04	General paralysis of the insane, tabes dorsalis	15	·31
1·62	Cancer, malignant disease	671	13·99
·18	Diabetes	76	1·58
·69	Cerebral haemorrhage, etc. ...	286	5·90
3·04	Heart disease	1,264	26·36
·06	Aneurysm	26	·54
·53	Other circulatory diseases ...	222	4·63
·38	Bronchitis	157	3·27
·51	Pneumonia (all forms)	213	4·44
·18	Other respiratory diseases ...	73	1·52
·12	Peptic ulcer	48	1·00
·06	Diarrhoea, etc.	26	·54
·06	Appendicitis	25	·52
·02	Cirrhosis of liver	10	·21
·07	Other diseases of liver, etc. ...	31	·65
·20	Other digestive diseases	85	1·77
·34	Acute and chronic nephritis ...	140	2·92
·02	Puerperal sepsis	7	·15
·04	Other puerperal causes	15	·31
·44	Congenital debility, premature birth, malformations, etc. ...	183	3·82
·24	Senility	100	2·08
·11	Suicide	47	·98
·38	Other violence	156	3·25
·96	Other defined diseases	397	8·28
·004	Causes ill-defined or unknown ...	2	·04
11·55		4,795	100·00

Compiled from figures supplied by Registrar General.

Table 4.

CITY AND COUNTY OF BRISTOL.

Population, marriages, births, deaths, natural increase, infant mortality, maternal mortality, for calendar year 1937 and previous nine years.

	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928
Estimated population (mid year)										
For birth rate ..	415,100	413,900	412,625	410,500	409,400	403,900	399,900	391,335	391,300	390,700
For death rate ..										
Marriages.										
Number	3,781	3,805	3,558	3,435	3,183	3,098	3,287	3,320	3,197	3,059
Rate per 1,000 population	18.2	18.4	17.3	16.7	15.5	15.3	16.4	16.9	16.3	15.7
Births.										
Legitimate—males ..	2,982	2,946	2,846	2,816	2,759	2,983	2,985	3,076	3,026	3,154
females ..	2,828	2,775	2,683	2,708	2,639	2,865	2,858	2,862	2,871	2,980
Illegitimate—males ..	108	97	101	100	98	111	104	122	97	115
females ..	83	78	85	88	96	106	93	97	101	114
Total	6,001	5,896	5,715	5,712	5,592	6,065	6,040	6,157	6,095	6,363
Rate per 1,000 living ..	14.46	14.24	13.85	13.92	13.66	15.01	15.1	15.7	15.6	16.3
Stillbirths.										
Legitimate—males ..	116	130	130	138	125	139	148	121	151	129
females ..	108	94	110	102	120	90	90	108	111	123
Illegitimate—males ..	6	5	4	8	6	5	9	4	6	5
females ..	8	1	8	9	9	5	4	3	8	2
Total	238	230	252	257	260	239	251	236	276	259
Rate per 1,000 total births	38	37	42	43	44	38	40	37	43	39
Deaths.										
Males	2,376	2,477	2,214	2,197	2,412	2,352	2,310	2,210	2,466	2,202
Females	2,419	2,529	2,291	2,296	2,517	2,340	2,427	2,260	2,606	2,300
Total	4,795	5,006	4,505	4,493	4,929	4,692	4,737	4,470	5,072	4,502
Rate per 1,000 population	11.55	12.09	10.92	10.92	12.04	11.6	11.8	11.4	12.9	11.5
Deaths under 1 year.										
Legitimate ..	267	267	235	246	286	303	282	331	340	354
Rate per 1,000 births ..	46	46	42	45	53	52	48	56	58	58
Illegitimate ..	10	18	19	19	20	17	21	23	24	21
Rate per 1,000 births ..	52	102	102	101	103	78	107	105	121	92
Total deaths ..	277	285	254	265	306	320	303	354	364	375
Rate per 1,000 births ..	46	48	44	46	55	53	50	57	60	59
Natural increase per 1,000 population	2.91	2.15	2.93	3.00	1.62	3.52	3.3	4.3	2.6	4.6
Diarrhoea and enteritis— (under two years)										
Deaths	9	24	16	17	29	43	16	26	27	30
Rate per 1,000 live births	1.5	4.07	2.8	2.98	5.2	7.1	2.65	4.22	4.43	4.71
Maternal mortality.										
Deaths	22	19	17	25	25	18	19	14	15	11
Rate per 1,000 total births ..	3.53	3.10	2.97	4.38	4.47	2.96	3.15	2.27	2.46	1.73
Puerperal sepsis.										
Deaths	7	9	7	10	11	6	10	8	12	3
Rate per 1,000 total births	1.12	1.46	1.22	1.75	1.96	0.99	1.66	1.30	1.97	0.47

Tables 5 & 6.

*Figures from Registrar General's Returns.***Births.**

YEAR	BRISTOL		ENGLAND and WALES.
	Number of births.	Birth rate.	
1881-1885	34,574	33·0	33·5
1886-1890	33,279	30·6	31·4
1891-1895	33,091	29·4	30·5
1896-1900	40,420	26·5	29·3
1901-1905	46,280	27·2	28·2
1906-1910	43,805	23·5	26·3
1911-1915	38,666	21·6	23·6
1916-1920	35,732	19·0	20·1
1921-1925	36,795	19·1	19·9
1926-1930	31,592	16·3	16·7
1931-1935	29,124	14·3	14·9
1923	7,347	19·1	19·7
1924	6,940	18·0	18·8
1925	6,730	17·4	18·3
1926	6,676	17·4	17·8
1927	6,301	16·3	16·6
1928	6,363	16·3	16·7
1929	6,095	15·6	16·3
1930	6,157	15·5	16·3
1931	6,040	15·1	15·8
1932	6,065	15·0	15·3
1933	5,592	13·6	14·4
1934	5,712	13·9	14·8
1935	5,715	13·8	14·7
1936	5,896	14·2	14·8
1937	6,001	14·5	14·9

Deaths.

YEAR	BRISTOL		ENGLAND and WALES.
	Number of deaths.	Death rate.	
1881-1885	20,168	19·2	19·4
1886-1890	21,164	19·5	18·9
1891-1895	21,199	18·8	18·7
1896-1900	24,630	16·1	17·7
1901-1905	26,609	15·6	16·0
1906-1910	24,818	13·3	14·7
1911-1915	25,367	14·1	14·3
1916-1920	24,747	14·1	14·4
1921-1925	23,411	12·2	12·2
1926-1930	23,258	11·9	12·1
1931-1935	23,356	11·4	12·0
1923	4,371	11·3	11·6
1924	4,701	12·2	12·2
1925	5,182	13·4	12·2
1926	4,419	11·5	11·6
1927	4,795	12·4	12·3
1928	4,502	11·5	11·7
1929	5,072	12·9	13·4
1930	4,470	11·4	11·4
1931	4,737	11·8	12·3
1932	4,692	11·6	12·0
1933	4,929	12·0	12·3
1934	4,493	10·9	11·8
1935	4,505	10·9	11·7
1936	5,006	12·1	12·1
1937	4,795	11·6	12·4

Tables 7 & 8.

*Figures from Registrar General's Returns.***Infant Mortality.**

YEAR	BRISTOL.		ENGLAND and WALES
	Number of deaths under one year	Rate per 1,000 births	
1881-1885	4,858	140	139
1886-1890	4,789	144	145
1891-1895	4,767	144	151
1896-1900	6,000	148	156
1901-1905	5,863	127	138
1906-1910	4,804	110	117
1911-1915	4,293	111	110
1916-1920	3,076	86	90
1921-1925	2,549	69	76
1926-1930	1,925	61	68
1931-1935	1,448	49	62
1923	456	62	69
1924	493	71	75
1925	511	76	75
1926	469	70	70
1927	363	58	70
1928	375	59	65
1929	364	60	74
1930	354	57	60
1931	303	50	66
1932	320	53	65
1933	306	55	64
1934	265	46	59
1935	254	44	57
1936	285	48	59
1937	277	46	58

Maternal Mortality.

YEAR	PUERPERAL SEPSIS			OTHER PUERPERAL CAUSES.			ALL CAUSES.		
	BRISTOL		ENGLAND AND WALES.	BRISTOL		ENGLAND AND WALES.	BRISTOL		ENGLAND AND WALES
	Number of deaths	Rate per 1,000 births		Number of deaths	Rate per 1,000 births		Number of deaths	Rate per 1,000 births	
1891-1895	67	2.02	2.60	102	3.08	2.89	169	5.11	5.49
1896-1900	69	1.71	2.12	89	2.20	2.57	158	3.91	4.69
1901-1905	70	1.51	1.95	155	3.35	2.32	225	4.86	4.27
1906-1910	63	1.44	1.56	90	2.05	2.18	153	3.49	3.74
1911-1915	56	1.45	1.42	97	2.51	2.61	153	3.96	4.03
1916-1920	51	1.43	1.51	79	2.21	2.61	130	3.64	4.12
1921-1925	49	1.33	1.40	83	2.26	2.50	132	3.59	3.90
1926-1930	44	1.39	1.73	61	1.93	2.54	105	3.32	4.27
1931-1935	44	1.50	1.75	60	2.06	2.54	104	3.57	4.29
1923	6	0.82	1.30	18	2.45	2.51	24	3.27	3.81
1924	8	1.15	1.39	19	2.74	2.51	27	3.89	3.90
1925	23	3.42	1.56	13	1.93	2.52	36	5.35	4.08
1926	13	1.95	1.60	10	1.50	2.52	23	3.45	4.12
1927	8	1.27	1.57	11	1.75	2.54	19	3.02	4.11
1928	3	0.47	1.79	11	1.73	2.63	14	2.20	4.42
1929	12	1.97	1.80	15	2.46	2.53	27	4.43	4.33
1930	8	1.30	1.92	14	2.27	2.48	22	3.57	4.40
1931	10	1.66	1.66	9	1.48	2.45	19	3.15	4.11
1932	6	0.99	1.61	12	1.97	2.63	18	2.96	4.24
1933	11	1.96	1.79	14	2.51	2.63	25	4.47	4.42
1934	10	1.75	2.03	15	2.63	2.57	25	4.38	4.60
1935	7	1.22	1.68	10	1.75	2.42	17	2.97	4.10
1936	9	1.46	1.40	10	1.64	2.41	19	3.10	3.81
1937	7	1.12	0.94	15	2.41	2.17	22	3.53	3.11

Table 9.

**Infectious disease mean attack rates per 100,000
population for quinquennial periods since 1890.**

DISEASE*	90/94	95/99	00/04	05/09	10/14	15/19	20/24	25/29	30/34	1935	1936	1937
Smallpox	35	4	5	5	4	2	4	4				
Plague						2			04			
Diphtheria	45	80	282	240	174	124	261	218	211	151	107	76
Erysipelas	73	94	96	65	70	53	46	41	39	37	46	42
Scarlet fever	410	264	617	227	361	149	372	315	185	250	200	159
Typhus	09			05			05	05				2
Enteric fever	52	66	71	5	26	13	10	7	4	3	5	3
Relapsing fever ..				24			05					
Continued fever ..	2	4	3		2	1	05		04			
Puerperal fever ..	9	8	11	9	7	6	8	8	3	2	2	†
Pulmonary tuberculosis				142	225	388	232	176	127	108	113	111
Cerebro spinal fever				05	3	8	1	1	3	2	1	2
Anterior polio-myelitis..					1	2	3	2	1	7	4	3
Tuberculous meningitis					5	12	9	5	3	3	2	3
Tuberculosis of {	Peritoneum and intestines ..				8	18	13	10	6	8	5	7
	Spinal column ..				3	3	4	3	3	2	2	3
	Joints				6	6	9	7	6	4	7	6
	Other organs ..				16	44	19	16	14	13	14	16
Ophthalmia neonatorum					4	24	26	10	7	6	3	7
Measles						740		05				
Primary pneumonia ..						9	61	96	73	81	94	73
Influenzal pneumonia						22	40	47	26	7	14	33
Malaria						7	14	2	1	2	1	5
Dysentery						8	2	7	11	2	11	9
Trench fever						05						
Encephalitis lethargica..						1	15	8	2	1	2	1
Polio encephalitis ..							2	3	1			9
Puerperal pyrexia ..								11	12	9	10	11†
Chicken pox								94				
TOTAL	627	516	1,137	713	920	1,638	1,148	1,093	737	690	648	567

* In order in which notification commenced—dates listed overleaf.

† Under the provisions of the Public Health Act 1936, the condition previously notified as puerperal fever is, from 1st October, 1937, notified as puerperal pyrexia. The figure given under the latter heading is the combined rate for the two diseases.

DATES ON WHICH NOTIFICATION COMMENCED :—

Infectious Disease Notification Act, 1889	..	..	..	..	..	12th Feb., 1890.
Pulmonary Tuberculosis—Voluntary Notification	..	..	..	..	..	5th Sept., 1905.
Cerebro Spinal Fever—Local Order (6 months)	..	..	..	..	..	25th Mar., 1907.
Tuberculosis (Pulmonary, Poor Law) Regulations, 1908	..	..	..	..	..	1st Jan., 1909.
" " Hospitals " 1911	..	..	..	..	..	1st May, 1911.
Cerebro Spinal Fever and Anterior Polio-myelitis—Local Order (6 months)	..	..	..	..	..	9th Oct., 1911.
Tuberculosis (Pulmonary, General) Regulations, 1911	..	..	..	..	..	1st Jan., 1912.
Cerebro Spinal Fever and Anterior Polio-myelitis—Local Order (permanent)	..	..	..	..	..	4th April, 1912.
" " " " " General Order, 1912	..	..	..	..	..	1st Sept., 1912.
Tuberculosis (all forms) Regulations, 1912	..	..	..	..	..	1st Feb., 1913.
Ophthalmia Neonatorum Regulations, 1914	..	..	..	..	..	1st April, 1914.
Measles and German Measles Order, 1915	..	..	..	..	..	1st Jan., 1916.
Encephalitis Lethargica and Polio-encephalitis Regulations, 1918	..	..	..	..	..	1st Jan., 1919.
Pneumonia, Malaria, Dysentery, etc., Regulations, 1919	1st Mar., 1919.
Puerperal Pyrexia Regulations, 1926	1st Oct., 1926.
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1937

REPORT
OF THE
Medical Superintendent
HAM GREEN HOSPITAL
AND SANATORIUM

B. A. I. Peters, B.A., M.D., B.C. Cantab., D.P.H.

STAFF, 1937.

Medical Superintendent.

B. A. I. Peters, B.A., M.D., B.C. Cantab., D.P.H

Deputy Medical Superintendent.

B. J. Boulton, M.B., Ch.B.

Resident Assistants.

N. V. Williams, M.B., Ch.B.

Mildred A. Morgan, M.R.C.S., B.D.S. (to 28/2/38).

Doreen Daley, M.B., B.S., M.R.C.S., L.R.C.P. (from 1/3/38).

Dental Surgeon.

Hanbury Hazell, L.D.S., R.C.S. (Eng.)

Specialist Staff.

Consultant physicians :

General	...	...	...	Emeritus Professor J. A. Nixon, C.M.G., B.A., M.D., F.R.C.P. (Lond). Professor C. Bruce Perry, M.D., M.R.C.P. (Lond.)
Children's diseases	...	...	...	O. C. M. Davis, M.D., D.Sc., M.R.C.P.

Consultant surgeons :

Orthopaedic	G. R. Girdlestone, M.A., F.R.C.S. Eng. Emeritus Professor E. W. Hey Groves, M.D., M.S., D.Sc., F.R.C.S. Eng.
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Surgeons :

Genito-urinary	A. W. Adams, M.B., M.S., F.R.C.S.
General	R. V. Cooke, M.B., Ch.M., F.R.C.S. Eng.
Orthopaedic	...	...	...	H. Chitty, M.S., F.R.C.S. Eng. K. H. Pridie, M.B., B.S., F.R.C.S. Eng.
Ear, nose and throat diseases	...	...	...	G. R. Scarff, M.B., F.R.C.S., Eng.
Gynaecology and obstetrics	...	...	...	H. J. Drew Smythe, M.C., M.D., M.S., F.R.C.S., F.C.O.G., M.M.S.A.
Ophthalmology	...	...	...	R. R. Garden, M.A., M.B., Ch.B., D.O.M.S.
Skin diseases	...	...	...	N. Burgess, M.A., M.D., B.C., M.R.C.P.
Venereal diseases	...	...	...	S. Hardy Kingston, M.B., Ch.B., D.P.H.
Occupational therapy	...	...	...	E. Casson, M.D., D.P.M.
Dental surgery	...	...	...	G. F. Fawn, B.D.S., M.R.C.S., L.R.C.P.

Matron	...	...	...	Miss K. M. Baldwin
Dispenser	...	...	...	Miss W. M. Blackett, L.S.A.
Chaplain	...	...	...	Rev. K. P. Banister, B.A.

Ham Green Hospital.
Table of admissions and discharges, 1937.

Disease	Remaining at end of 1936	Admissions as notified	DISCHARGED										Remaining in hospital at end of 1937		
			Diagnosis confirmed		With super-added infections		Total	Mortality rate per cent.	Diagnosis not confirmed.		Total	Mortality rate per cent.			
			recovered	died	recovered	died			recovered	died					
Scarlet fever ...	62	578	497	6	14	...	517	1.1	63	...	63	...	63	...	62
Diphtheria ...	46	383	269	7	15	...	291	2.4	79	2	79	2	81	2.4	54
Enteric fever ...	1	9	8	...	...	...	8	...	...	...	...	...	...	...	...
Whooping cough ...	23	79	83	6	2	...	91	6.6	6	...	6	...	6	...	6
Measles ...	1	88	62	4	5	...	71	5.6	6	...	6	...	6	...	19
Erysipelas ...	6	92	86	...	...	...	86	...	6	1	6	1	7	14.0	7
Broncho-pneumonia	2	56	35	5	3	...	43	11.6	6	2	6	2	8	25	2
Lobar pneumonia ...	1	8	6	2	...	...	8	25	1	1	1	1	2	50	...
Influenzal pneumonia	...	9	8	1	...	...	9	11	1	...	1	...	1	...	1
Puerperal fever ...	1	5	5	...	...	...	5	...	1	...	1	...	1	...	...
Chicken pox ...	...	41	23	...	3	...	26	...	4	...	4	...	4	...	11
Dysentery ...	...	18	18	...	...	...	18	...	1	...	1	...	1	...	1
German measles ...	...	2	7	...	...	...	7	...	1	...	1	...	1	...	...
Influenza ...	...	7	7	...	...	...	7	...	1	...	1	...	1	...	...
Mumps ...	2	35	30	...	...	...	30	...	7	...	7	...	7	...	...
Malaria ...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...
Cerebro-spinal fever	...	4	...	...	...	...	...	...	2	1	2	1	3	33.3	...
Enceph. lethargica...	...	1	2	1	...	...	3	33	...	...	...	...	...	...	...
Anterior poliomyelitis	...	4	5	...	...	...	5	...	1	...	1	...	1	...	...
Typhus ...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...
Mixed infections, other diseases, observation cases ...	4	69	44	...	...	...	44	...	10	...	...	...	10	...	1
TOTALS ...	149	1,489	1,197	32	42	...	1,271	...	196	7	...	...	203	...	164

HAM GREEN HOSPITAL AND SANATORIUM.

REPORT FOR 1937.

Bed accommodation at nursing capacity.

	Pavilion	In main wards	In small wards of						Total
			8 beds	6 beds	4 beds	3 beds	2 beds	1 bed	
HOSPITAL WING	A ...	24	...	...	...	...	...	...	24
	B ...	24	...	...	...	...	...	1	25
	C ...	24	...	...	...	...	...	1	25
	D ...	24	...	...	...	...	...	1	25
	E ...	39	...	...	...	...	...	1	40
	F ...	38	...	...	...	...	2	...	40
	G ...	...	...	...	...	6	...	...	6
	H ...	...	...	...	...	...	8	...	8
	I ...	...	...	...	16	...	...	...	16
	J ...	...	...	...	...	...	2	...	2
	K ...	24	...	...	4	...	...	...	28
	L ...	24	...	...	4	...	...	...	28
	M ...	(Opened 1937)	...	6	4	...	...	4	14
SANATORIUM WING	N ...	...	...	...	...	...	20	10	30
	O ...	...	...	...	...	...	18	10	28
	P ...	...	...	...	...	6	12	2	20
	Q ...	...	16	...	...	...	...	4	20
	R ...	...	...	...	...	6	12	2	20
	S ...	...	...	12	...	...	12	12	36
	T ...	...	...	12	...	...	12	12	36
	Red Cross Chalets	...	8	...	...	...	6	2	16
	...	...	...	...	...	...	12	...	12
	Totals ...	221	24	30	28	18	116	62	499

Scarlet fever.

The treatment of 517 cases of scarlet fever was completed during the year. A higher proportion of severe cases than of late was observed of which six died, giving a mortality rate of 1·1 per cent.

It has been found that the anti-streptococcic drug, sulphanilamide, is less effective in this disease than in other streptococcal infections. Three of the fatalities occurred due to septic complications, two from renal complications and one following an operation for appendicitis before admission. Severe renal complications, which have been almost absent for a series of years, occurred in 2·2 per cent. of the patients.

The return case rate, namely 3·1 per cent. is also higher than our usual experience.

In 63 cases (12·5 per cent.) the diagnosis was not confirmed.

Diphtheria.

291 cases completed their treatment of which seven died, giving a mortality rate of 2·4 per cent.

The number of severe cases, namely 57 or 19 per cent. was higher than for the last two years. We consider this very favourable mortality rate, from the type of case admitted, is in part due to the additional methods of treatment we introduced several years ago.

In 81 other cases sent in as diphtheria the diagnosis was not confirmed; this is 21 per cent. of the total admissions. In comparing our mortality rate with official rates based on notifications, this fact should be considered as, if we base our mortality rate on the admissions as notified, it would only have been 1·8 per cent. Official Ministry of Health figures thus tend to obscure the genuine mortality from the disease.

It is a curious fact that since the malignant type of diphtheria has been present in Bristol the number of tracheotomy cases has become extremely small, only two such cases occurred during the whole year.

Enteric fevers.

Four cases infected with bacillus typhosus were treated during the year and four infected with bacillus para typhosus B. All recovered.

Measles.

A measles epidemic started in the autumn and 88 severe cases of this disease were admitted. The mortality rate was 5·6 per cent.

Whooping cough.

102 cases of whooping cough, mostly complicated with bronchopneumonia, were under treatment during the year of which 6·6 per cent. died.

Streptococcal diseases.

86 cases of erysipelas were discharged during the year and five cases of puerperal sepsis, all of which recovered. These very gratifying results are undoubtedly due to sulphanilamide treatment which is extremely effective in these diseases.

One case sent in as erysipelas was found to be suffering from haemophilia from which he died.

Pneumonia.

60 cases of primary pneumonia were discharged and eight died. Arrangements have been made at the department of preventive medicine for rapid typing of the pneumococcus in lobar pneumonia so that serum treatment can be used if the cases are due to type I or to type II pneumococci. Unfortunately, the majority of cases are admitted too late in the disease for serum treatment to have any striking effects, as experience shows it must be used

early to be of value. It is to be hoped that practitioners will consider this point when sending pneumonia cases in. Apart from this aspect, any movement of pneumonia cases in the advanced stage of the disease is extremely harmful to the patient.

Diseases of the central nervous system.

Four cases were sent in as cerebro spinal fever but in none of these was the diagnosis confirmed. One of these was suffering from aseptic meningitis and recovered. Two cases of encephalitis lethargica and three cases of anterior poliomyelitis were also under treatment of which one case of encephalitis lethargica died.

Other diseases.

93 cases of minor infections, mostly admitted from other institutions or for some special reasons, were under treatment during the year.

73 mixed infections and general disease, some of which were admitted from Southmead Hospital to relieve the pressure on their beds, completed the list.

Mixed infections.

24 cases were found to be suffering from two infections on admission; 12 cases developed a second infection a few days after admission, the infection of which was contracted before admission.

This does not include carriers of other diseases such as diphtheria which are found on swabbing cases after admission. It will be noted that all these cases recorded are a potential danger to the other cases. The number who contracted a second disease while in hospital was only five, that is 0·3 per cent. of the total admissions, or one patient in every 327. This very satisfactory result is only attainable by having an ample number of isolation cubicles into which any mixed infections or doubtful cases can be put on admission. In spite of opening one of the new cubicle wards, which has proved invaluable, we have at times had no cubicles available for cases needing isolation. The second cubicle ward was opened early in 1938 and considerably relieved the pressure.

Operations.

71 operations, needing a general anaesthetic, were performed during the year.

Research.

A large hospital such as ours, in addition to its primary object in treating disease, should be a centre for clinical and other research, as in no other type of hospital are such large numbers of the same disease treated during a comparatively short period.

By the generosity of the Sir Halley Stewart Trust we have been enabled to retain the services of Dr. N. Cunningham who has been engaged, in conjunction with the writer, in biochemical research into the reaction of the patients to acute infections.

Our particular form of research is a somewhat tedious investigation. In research it is only the fortune of the few to make startling discoveries. Such discoveries are generally but the cap stone placed on the laborious work of others.

A great deal of valuable research, which is at present being carried out in biochemistry, is being financed by private trusts. It is to be hoped that local authorities will eventually allocate a sum for this purpose, as advances in treatment can only arise out of such work. In a disease such as tuberculosis no real advance has been made in treatment except on the surgical side in the last quarter of a century.

By concentrated attack from the biochemical side, advances may definitely be made, as the scope of surgery in pulmonary tuberculosis is very limited and can only be employed for cases who are already responding favourably to treatment. We still encounter a considerable number of acute cases of tuberculosis who do not respond to any known form of treatment for some unknown reason. Nearly every large industry expends considerable sums on research in its own problems. Medical science does not advance at the rate it should owing to the comparative lack of provision for this important aspect.

TUBERCULOSIS.

Admissions and discharges.

Remaining end of 1936	Admitted	Discharged	Died	Remaining end of 1937
133	343	242	95	139

We have still to deplore the large number of cases admitted beyond all hope of any amelioration of their condition. However, there is some indication that the recent improvement in x-ray facilities at the Central Health Clinic is already beginning to bear fruit.

36 patients, of whom 24 died, are not included, as they did not complete 28 days' treatment.

Results of observation of doubtfully tuberculous cases discharged.

[illegible]

1937

REPORT
OF THE
Resident Medical Officer
FRENCHAY PARK SANATORIUM
and ORTHOPÆDIC HOSPITAL

Constance I. Ham, M.B., Ch.B., F.R.C.S.

Institution administered by the Health Committee.

STAFF, 1937.

Resident Medical Officer.

Constance I. Ham, M.B., Ch.B., F.R.C.S.

Specialist staff as for large hospitals, particularly

Physician for diseases of chest 	C. J. Campbell Faill, F.R.C.P. Ed.
Orthopaedic surgeons	H. Chitty, M.S., F.R.C.S. Eng. K. H. Pridie, M.B., B.S., F.R.C.S. Eng.
Dental surgeon ...	J. Donald Rees, L.D.S., R.C.S. Eng.

Matron 	Miss L. Allen
Head teacher	Miss B. E. Babb, B.A.
Chaplain 	Rev. G. F. Greenup, M.A.

**FRENCHAY PARK SANATORIUM AND
ORTHOPAEDIC HOSPITAL.**

REPORT FOR 1937.

Bed accommodation at nursing capacity.

Pavilion	In small wards of			Total
	13 beds	4 beds	1 bed	
1 ...	26	16	—	42
2 ...	26	16	—	42
Observation	—	—	12	12
Totals ...	52	32	12	96

Admissions and discharges.

Remaining end of 1936	Admitted	Discharged	Died	Remaining end of 1937
86	150	146	3	87

During the year, 150 children were admitted compared with 176 in 1936, and 146 discharged. There were three deaths. A considerable number of these cases were admitted for observation on delicacy or for non-tuberculous bone disease. One hundred and thirty-eight children were discharged with the disease quiescent and eight with tubercular disease still active.

The analysis of discharges shows that 92 per cent. were discharged with the disease quiescent. Altogether 162 operations were carried out including seven of a major character. Massage treatments numbered 1,429 and 1,420 sunlight treatments were given.

The Kromayer lamp supplied for use in the hospital has proved very useful especially in cases of sinuses associated with tuberculous joints. The infra-red ray lamp has been used in 285 cases, mainly in long standing bone and joint disease and the the relief of pain in more acute cases.

Gold (in the form of myocrysin) has been used in a number of cases of tuberculous joints with abscess formation and since its use no aspiration of an abscess has been necessary, though the series of cases is small.

The panel of consulting and visiting surgeons and physicians remains as formerly. Frequent and regular visits were paid to the institution by the tuberculosis officer (Dr. C. J. Campbell Fail) and by the visiting surgeons (Mr. Chitty and Mr. Pridie). Monthly visits were paid by the dental surgeon (Mr. J. Donald Rees) whose report on the dental work performed in the institution is included in the report on dental work in city hospitals and clinics for the year (page 168).

1936	Analysis of treatment.	1937
2	Major operations under general anaesthesia ...	7
98	Minor operations under general anaesthesia (including tonsillectomy and dental extractions)	103
14	Operations under local anaesthesia	52
679	General U.V.R.	848
314	Local U.V.R.	572
2014	Massage and exercises	1429
66	Plaster splints	64
53	Zinc and gelatine splints	70
408	Radiographs taken	510*
—	Electrical treatments	58
—	Infra-red	285

* 48 of these are screenings.

Analysis of discharges.

1936	Type of case	Quiescent	Non-quiescent	Died	Non-T.B.	Doubtful	1937
10	Pulmonary tuberculosis ...	24	4	—	—	—	28
17	Bone and joint tuberculosis ...	12	—	2	—	—	14
11	Tuberculous peritonitis ...	12	4	—	—	—	16
14	Tuberculous adenitis ...	16	—	—	—	—	16
—	T.B. otitis media	1	—	—	—	—	1
3	T.B. iritis ...	—	—	—	—	—	—
1	T.B. skin ...	—	—	—	—	—	—
1	T.B. tonsils ...	—	—	—	—	—	—
1	T.B. epididymitis	—	—	—	—	—	—
—	T.B. meningitis	—	—	1	—	—	1
94	Observation and delicacy ...	60	—	—	—	—	60
13	Non-tuberculous orthopaedic ...	13	—	—	—	—	13
165		138	8	3	—	—	149

Sanatorium school.

The head teacher reports :—

During the past year, shorthand and typewriting have been added to the school curriculum. We hope that all children of fourteen years and over, will be able to receive an elementary commercial training.

In December the school received a very welcome present from the Children's Concert Society, of a portable gramophone and about 50 records, including the Columbia history of music.

We are hoping soon to have a fourth teacher to help in the surgical ward.

The difficulty of a supply teacher for the holidays was met to some extent by the teachers arranging their Whitsun and Summer holidays so that one supply teacher could remain in the school over the whole period of 18 weeks.

1937

REPORT
OF THE
Medical Superintendent
SOUTHMEAD HOSPITAL

P. Phillips, M.Sc., M.D., Ch.B.

Institution administered by the Health Committee.

STAFF, 1937.

Medical Superintendent.

P. Phillips, M.Sc., M.D., Ch.B.

Deputy Medical Superintendent.

N. L. Price, M.D., Ch.B. (to Sept., 1937).

D. T. Davies, M.R.C.S., L.R.C.P. (from Sept., 1937).

Resident Assistants.

G. Struthers, M.B., Ch.B.

F. C. Collingwood, M.B., Ch.B. (to 31/8/37).

S. D. Loxton, M.B., Ch.B. (to 31/1/38).

N. R. Matheson, M.B., Ch.B. (from 1/2/38).

Mary Gladwell, M.B., B.S. (from 7/2/38).

Dental Surgeon.

Hanbury Hazell, L.D.S., R.C.S. Eng.

Specialist Staff.

Consultant physicians :

General	Emeritus Professor J. A. Nixon, <i>C.M.G.</i> , B.A., M.D., F.R.C.P. (Lond.) Professor C. Bruce Perry, M.D., F.R.C.P. (Lond.)
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Children's diseases	O. C. M. Davis, M.D., D.Sc., M.R.C.P.
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Consultant surgeons :

Orthopaedic	G. R. Girdlestone, M.A., F.R.C.S. Eng. Emeritus Professor E. W. Hey Groves, M.D., M.S., D.Sc., F.R.C.S. Eng.
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Surgeons :

Genito-urinary	A. W. Adams, M.B., M.S., F.R.C.S.
General	R. V. Cooke, M.B., Ch.M., F.R.C.S. Eng.
Orthopaedic	H. Chitty, M.S., F.R.C.S. Eng. K. H. Pridie, M.B., B.S., F.R.C.S. Eng.

Ear, nose and throat diseases	G. R. Scarff, M.B., F.R.C.S., Edin.
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Gynaecology and obstetrics	H. J. Drew Smythe, <i>M.C.</i> , M.D., M.S., F.R.C.S., F.C.O.G., M.M.S.A.
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Ophthalmology	R. R. Garden, M.A., M.B., Ch.B., D.O.M.S.
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Skin diseases	N. Burgess, M.A., M.D., B.C., M.R.C.P.
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Venereal diseases	S. Hardy Kingston, M.B., Ch.B., D.P.H.
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Occupational therapy	E. Casson, M.D., D.P.M.
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Dental surgery	G. F. Fawn, B.D.S., M.R.C.S., L.R.C.P.
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Matron	Miss M. E. Price
Steward	L. J. Fricker
Almoner	Miss E. B. C. Powell, A.I.H.A.
Radiographer	W. F. Phillipps.
Dispenser	...	...	...	Miss E. F. Winchester, B.A., M.P.S.
Chaplains	...	...	...	Rev. A. L. White (Church of England) Rev. J. Rehenan (Roman Catholic) Rev. D. J. Roberts (Nonconformist) Rev. S. J. Henshall (from Oct., 1937)

SOUTHMEAD HOSPITAL.

REPORT FOR 1937.

In September this year work commenced upon the first part of a scheme of extension to meet the need for increased hospital accommodation. Buildings are being erected rapidly to provide

- (a) a nurses' home for ninety nurses ;
- (b) one hundred beds for maternity cases.

During the year occupational therapy has been established on a permanent basis. The scope of the work has been extended and a workshop provided, where suitable cases may attend.

The post-natal and consultative ante-natal clinics have worked satisfactorily, and details of attendances are given in the section on maternity work.

Classification of cases according to types of disease is greatly hampered by the relatively large wards which exist at present and the liberation of several smaller wards now used for maternity work will greatly assist in this direction.

Other improvements consist of :—

- (1) the complete "shock-proofing" of the X-ray apparatus ;
- (2) the provision of exhaust fans in the X-ray room and dark room.

The latter have considerably improved the ventilation of the rooms and should help in promoting the health of the officers who work in them.

The beds available were classified as follows :—

Medical	...	...	...	144
Surgical	...	...	...	72
Children	...	...	...	42
Chronic sick	...	...	...	103
Tuberculosis	...	...	...	68
Maternity	...	...	...	44
Cots in maternity	...	...	...	37
				510

The average number of beds occupied daily was 446.

- (a) Highest on 13th April, 1937 ... 476 (excluding cots)
- (b) Lowest on 27th December, 1937 ... 403 (excluding cots)

In 1937 the total number of admissions including infants born in hospital was 4,676.

During the year 4,148 cases were discharged, whilst there were 574 deaths. The corresponding figures for 1936 were 3,726 discharges and 616 deaths. Statistics regarding the duration of stay of these patients were as follows :—

- (a) Under four weeks 3,539
- (b) Over four but under thirteen ... 810
- (c) Thirteen weeks or more 373

Massage and electrical department.

In-patients.	1936	1937	Increase	Decrease
Total massage treatments ...	2,592	3,169	577	...
Total electrical treatments...	3,444	2,233	...	1,211
Radiant heat treatments ...	2,347	2,771	424	...
Remedial exercises, S.R.E. ...	886	1,177	291	...
Total treatments	9,269	9,350	1,292	1,211

During the last three months of 1937 an additional masseuse was employed in this department. It will be seen that there were increases in three sections of the work. The reorganization of the staff has helped the department materially.

X-ray department.

The apparatus has been improved by the introduction of a new type of tube and a complete "shockproofing" of the outfit. The portable set has proved invaluable for orthopaedic work, and the number of X-ray cases dealt with in 1937 reached a total of 3,320. This is an increase of 145 as compared with the previous year. The total number was composed of :—

- Screen examinations ... 674
- Skiagrams taken 2,646

Statistics relating to patients.

	Remain- ing 1936	Admit- ted	Dis- charged	Deaths	Opera- tions	Remain- ing 1937
Acute infectious diseases ...	—	43	42	1	—	—
Influenza	3	16	16	3	—	—
Tuberculosis (pulmonary) ...	36	68	55	22	8	27
„ (non-pulmonary)	22	64	60	12	16	14
Malignant disease	42	245	133	110	18	44
Rheumatism (acute)	17	39	36	—	—	20
„ (chronic non-articular)	14	21	19	—	—	16
„ (articular)	8	41	43	—	3	6
Venereal disease	2	18	15	3	—	2
Puerperal fever	—	—	—	—	—	—
„ pyrexia	—	9	9	—	—	—
Other diseases and accidents of childbirth	4	106	102	3	98	5
Maternity	84	Mothers 1,091 Babies 991	Mothers 1,094 Babies 950	Mothers 2 Babies 29	3	91
Mental diseases (senile dementia)	—	9	9	—	—	—
„ „ (other types) ...	—	6	6	—	—	—
Senile decay	4	8	4	2	—	6
Accidental injury and violence	32	253	224	33	163	28
Diseases of nervous system and special senses	43	365	348	30	248	30
Diseases of respiratory system...	50	386	288	94	6	54
Diseases of circulatory system...	85	420	265	172	12	68
Diseases of digestive system ...	26	212	206	10	92	22
Diseases of genito-urinary system	14	169	139	34	94	10
Skin and cellular tissue ...	6	40	40	1	4	5
Congenital deformities ...	5	31	31	1	33	4
Other diseases	7	25	14	12	—	6
TOTALS ...	504	4,676	4,148	574	798	458

Radiation treatment.

Cases requiring treatment by radium or deep X-ray have been transferred to the new radium centre at the Bristol General Hospital. The number of such patients transferred during 1937 was 18. These were suffering from malignant disease affecting the following sites :

Rectum	...	...	...	1
Uterus	...	...	...	2
Tongue and mouth			...	6
Skin	...	...	...	3
Thyroid	...	...	...	2
Oesophagus	...	...	...	1
Other sites	...	...	...	3

This arrangement is a good one and works well.

Medical section.

The number of beds devoted to this work remained the same as in 1936. The actual figures give much information concerning the variations in disease. Some diseases which were formerly common, e.g., cirrhosis of the liver, have now become rare, whereas others, rarely seen years ago are now frequent. The general change seems to be a rise in degenerative processes and a diminution in infectious and other preventable diseases. The fact that over thirty per cent. of these admissions were sixty years of age and over, shows that the majority become ill and may die from the wear and tear of existence, rather than from the result of some acute and sudden illness.

The largest number of admissions, viz., 420, arose from diseases of the circulatory system. Next in importance come diseases of the respiratory system (386), closely followed by nervous diseases (365). The deaths from circulatory diseases and respiratory diseases were 172 and 94 respectively.

There were 212 patients admitted suffering from digestive diseases giving rise to 10 deaths.

Rheumatism in all its forms accounts for 101 cases. I am glad to record that this was approximately 50 fewer than in 1936.

Forty patients suffering from various forms of skin disease were admitted, whilst influenza was responsible for 16 admissions. Sixty-eight cases of pulmonary tuberculosis were investigated and there were 22 deaths from this cause.

As was pointed out last year, "O" ward is still occupied by "chronic" female medical cases and the large number of such cases constantly being admitted still constitutes a serious problem. The ward itself is most unsatisfactory and I would again emphasize the urgent need for its replacement by a more modern building.

The pathological service established through the preventive medicine department has again proved its value, whilst the extent of its work has been improved.

Orthopaedic section.

During the year sixty-four cases of non-pulmonary tuberculosis were admitted, involving operations on 16 patients.

Surgical section.

The total number of operations performed under general and spinal anaesthesia was 798—a considerable increase on 1936 when the number was 604. There were no deaths under anaesthesia. Blood transfusion was carried out in five cases, the donors being volunteers from the Bristol Voluntary Blood Transfusion Service. No words of mine can adequately express our indebtedness to them.

Admissions due to cancer were somewhat higher than for 1936. During 1937 the number of cases admitted was 245, compared with 222 in 1936. There were eighteen operations for this condition and the same number of patients were sent for radiation treatment. Deaths numbered 110 as compared with 119 in 1936. Most of these fatal cases had already received various forms of treatment before admission here and were suffering from an advanced form of the disease before their arrival.

Genito-urinary diseases : in this special section there were 169 cases admitted and 94 operations performed. This was an increase of eleven operations on the previous year.

“ Accidental injury and violence ” were accountable for 253 admissions and operations were performed on 163 of these cases. The number of such operations in 1936 was 86, so that the figures show a marked increase. The arrangements for this work appear very satisfactory but could be further improved when a classification of cases is possible in smaller ward units.

Ear, nose and throat department.

In this section 241 operations were performed compared with 125 in 1936. Of these, 211 were for the removal of tonsils and adenoids, whilst there were 11 mastoid operations. The remaining operations were performed for deviated nasal septum, nasal polypi, antral explorations and bronchoscopy. It will thus be seen that the very large increase was in tonsil and adenoid operations in children mainly referred from the school clinics.

Gynaecological department.

During 1937 the number of operations performed was 106 compared with 91 in 1936. Of these, 78 were suffering from incomplete abortion and I am glad to report that this figure is only a slight increase on the number dealt with in 1936, viz., 73. There was again much evidence that all these cases were not due to natural causes. I still consider that this condition should be made notifiable.

Maternity department.

In spite of an endeavour to limit admissions pending the completion of a new maternity department, the number of cases has again increased. During the year 985 mothers were admitted for confinement—an increase of 59 on the previous year. In addition, 29 patients were admitted for nursing after recent confinement at home, so that the total number of maternity cases dealt with exceeded one thousand. The hospital ante-natal clinics were attended by 790 women who recorded 3,553 attendances.

At the post-natal clinic there were 953 attendances by 638 mothers with 486 babies. There were 329 attendances at the special consultative ante-natal clinic. The details of hospital cases were as follows :—

Total number of cases (18 twins)	...	985
Number of live births	... ..	950
„ stillbirths	... ..	53
Ophthalmia neonatorum	... ..	1
Puerperal sepsis	... ..	nil
„ pyrexia	... ..	9
Number of maternal deaths	... ..	2

Seven beds were allocated for ante-natal treatment and 82 of the cases mentioned above received some form of inpatient ante-natal treatment. The average duration of stay was 15·21 days.

Caesarian section was successfully performed in seven cases, whilst medical aid was necessary in 348 cases.

On the midwifery district attached to the hospital 149 mothers were safely delivered in their own homes. Of these, 14 were doctors' cases and 135 midwives' cases. The number requiring medical aid for various causes in the latter group was 24.

During the year 13 pupil-midwives were trained in the department for the C.M.B. examination. There were no failures. In addition, two sisters obtained the special midwifery teachers' diploma of the University of Bristol.

Dental work.

This has been continued on a similar basis to former years. There has been a considerable increase in the work done, and many dentures have been provided for necessitous cases.

Occupational therapy.

This work has been extended during the year and placed on a permanent basis. Dr. Elizabeth Casson has been appointed to carry on its organization, following the successful experiment tried during the latter half of 1936. A workshop has been provided where suitable cases may attend, in addition to the work carried out in the wards.

In the autumn a sale was organized and the proceeds used to buy materials for the future.

Examinations and teaching.

The hospital has been used as a centre for the examinations of the General Nursing Council. During the year 17 of our own nurses completed their training.

In June the examinations in clinical medicine of the University for the degree of M.D. and M.B. have been held at Southmead, whilst clinical demonstrations in medicine have been given by Professor C. Bruce Perry.

The number of students who came into residence here for their midwifery training was eleven. Cinematograph films have been exhibited for the instruction of nurses and midwives.

Future developments.

In September, building operations commenced upon a new nurses' home for 90 nurses and a maternity department to accommodate 100 patients. The next part of the scheme which has been approved, will provide a casualty department and clinics to replace the temporary accommodation which is now proving inadequate. The present laundry is over-taxed and its machinery is twenty-five years old and out of date. The replacement of this is an urgent necessity.

The main kitchen also requires enlargement and reconditioning and in the scheme of extension both these matters have been considered.

"O" ward is still far from satisfactory and badly needs replacement. A plan has been prepared for modernizing the "chalet" to meet the needs of both male and female cases of surgical tuberculosis.

There is no canteen for daily workers in the hospital, and in my opinion the present huts which are used as messrooms are highly unsatisfactory. We look forward to the provision of more suitable accommodation.

Finally, a number of smaller ward units are necessary to aid the classification of certain specialised cases.

Hospital almoner.

During the year the Health Committee appointed a qualified lady almoner (Miss E. B. C. Powell, A.I.H.A.) who commenced duty on the 1st April, 1937. Her report for the time she has been working at Southmead Hospital is appended.

Almoner's Report.

"During the nine months (April to December) that I have been at Southmead, there has been a considerable re-organization of the work in connection with the assessment and collection of patients' payments. Formerly, the assessment was made at the health department, and as it was impossible to interview the relations, each case was referred to the public assistance department for a home visit, which meant that there was often a delay of two or three weeks before the patients were assessed. Now, patients, or patients' relatives, are usually seen and assessed within a week of admission to hospital.

With regard to the patients' payment, the majority of the patients have paid extremely regularly and very little difficulty is experienced in collecting the money.

During the last few months there has been a considerable increase in the number of patients bringing vouchers from hospital schemes with which we have agreements. This is partly due to the fact that there have been a number of new agreements in the last six months, but it is also due to the fact that more patients are joining schemes now that they realise that Southmead Hospital accepts hospital notes.

Under the five yearly valuation of the Rational Approved Society and the Operative House and Ship Painters and Decorators Approved Society, I have been able to collect money on a number

of cases, as their additional benefit schemes allow certain members to receive grants towards hospital treatment. This money is paid direct to the hospital and not to the member.

There has been difficulty with some of the health insurance companies with regard to the payment of either sickness or disablement benefit to the hospital while patients are in hospital, in spite of the fact that the patients have given their written consent for this to be done. The matter has now been taken up by the town clerk and it is hoped a settlement will be reached.

Five patients have been attending as out-patients in the massage department, and of these cases one has paid a small sum weekly, three have been covered by their contributory schemes and one has been free.

Since my appointment a certain amount of social work has been done largely with regard to convalescence. It is hoped to be able to make arrangements next year for getting some of the old patients who do not need hospital treatment and who are unable to go home, into suitable homes, as the shortage of beds at Eastville makes it important to find accommodation for these people in homes in Bristol. Unfortunately, there are very few homes in Bristol which agree to take old people, and of those known four are at present full and with waiting lists. Naturally the social work side takes longer to organize than assessment and collection of payments, but there is definitely a great demand for social work, and it is certainly most important that this demand should be met.

It may be of interest to record a few of the difficult cases dealt with during the year :—

(1) In one case there was difficulty with regard to payment while the patient was in hospital. This case was of a child who was admitted here and was in hospital for eleven weeks. Her father and the whole family were in a very good financial position. The child had previously been in this hospital for four years under public assistance and was discharged six months previous to her re-admission. On the financial circumstances the Committee assessed the case to pay full cost. The father refused to make any payment whatever. His contention was that while the child was in hospital before, he was charged at the rate of 5/- a week and he would not pay more than that amount. The Committee reconsidered the case on three occasions and were unanimous in agreeing that the father should be pressed for payment. This case is instanced to show there is difficulty in collecting money from people in good financial circumstances.

(2) Another interesting case was that of a young woman who was admitted to the surgical ward and was in hospital for five weeks. She produced a card saying that she belonged to a certain Hospital Scheme. The secretary agreed that his scheme would pay at the rate of 35/- a week, an acceptance which was retracted when it was discovered that the hospital was rate-aided. It was pointed out that he had agreed to pay at the rate of 35/- a week and that his scheme was regarded as responsible for the patient's treatment. The secretary replied offering 21/- a week in view of the circumstances, and the Assessment Sub-Committee agreed to accept this offer.

(3) During November a young married woman was admitted to hospital suffering with kidney trouble. When interviewed her husband told me that he was in receipt of unemployment assistance benefit. He had six children under twelve years of age and was finding it difficult to manage while his wife was in hospital, as he had no relations in Bristol. He was able to admit twins aged eighteen months into the Downend Home, and an older child was admitted to this hospital on account of tuberculous glands of neck. The patient was operated on, and I received a message from the surgeon stating that the patient was most anxious to go out of hospital as she was worried about her husband. The unemployment assistance benefit had apparently been reduced and she felt that if she went home the benefit would be increased and she would also be able to keep an eye on the children. This course was completely out of the question for her, as it was essential that she should stay in hospital and undergo a second operation, and there is a strong possibility that she should go to a sanatorium for a year. At my request, the husband gave me particulars of the reduced unemployment assistance benefit, and I got in touch with the appropriate department. They were most co-operative and arranged to increase the allowance by making an allowance for him to bring extras for his wife and for fares and also helped with a woman to look after the children.

I have been greatly helped by the friendly co-operation of all departments and the individuals with whom I have come in contact.

Hospital Contributory schemes.

Name.	No. of cases paid for.
Bristol Medical Institutions ...	176
Bristol Aeroplane Co. ...	67
Bristol Tramway Co. ...	16
Wills' ...	9
Bristol Corporation ...	8
National Smelting Co. ...	7
Mardon Son & Hall ...	7
Bristol Co-operative Society ...	5
Fry's ...	4
Packer's ...	2
Colthurst & Harding ...	2
Redcliffe Wharf ...	2
Strachan & Henshaw ...	2
Alpha ...	1
Robinson's ...	1
Metal Agencies ...	1
Gardener, Son & Hall ...	1
C.W.S. ...	1
Health Office ...	1
Edwards & Ringer ...	1
Albion ...	1
National Amalgamated Woodworkers ...	1
Liverpool ...	1
Reading ...	1
Birmingham ...	1
Yeatman ...	1
Sherbourne ...	1

Total no. of cases ... 320

Statistics.

	No.	% of total	Paid to Almoner.			Accounts issued for.		
			£	s.	d.	£	s.	d.
Patients paying "full cost "	89	8·6	202	13	4	154	11	7
Contributory schemes ...	320	30·8	210	0	0	960	7	8
Partial payments	352	33·9	920	3	9	167	15	10
N.H.I. Additional benefits...	6	·6	—	—	—	26	4	6
Hortham Colony ...	8	·8	—	—	—	—	—	—
Glos. Education Committee	1	—	—	—	—	—	—	—
Glos. County Council ...	1	—	—	—	—	—	—	—
Free	262	25·3	—	—	—	—	—	—
Total	1,039	100·0	£1,332	17	1	£1,308	19	7

OLD CASES TAKEN OVER ON APRIL 20TH.

Patients paying "full cost "	2	—	10	0	0	46	6	9
Contributory schemes	10	—	—	—	—	122	14	6
Partial payments	34	—	155	9	5	38	11	2
Free	10	—	—	—	—	—	—	—
Total	56	—	£165	9	5	£207	12	5

MATERNITY CASES.

Patients paying "full cost "	73	17·4	15	16	3	304	19	2
Glos. County Council ...	9	2·1	—	—	—	50	19	2
Partial payments	286	67·9	80	5	1	459	16	10
Hospital schemes part pay- ment	5	1·9	—	—	—	16	4	0
Hospital schemes whole pay- ment	3		—	—	—	21	11	0
Free	45	10·7	—	—	—	—	—	—
Insurance	—	—	54	8	1	—	—	—
Total	421	100·0	£150	9	5	£853	10	2

Total amount of money received by almoner — £1,648 15s. 11d.

Social work statistics.

Convalescent treatment arranged—					No. of cases
Free beds ... ..	...	...	...	...	8
Full cost paid by patient	...	...	...	...	5
Cost paid by N.H.I. Societies	...	...	...	...	2
Cost paid by P.A. Committee	...	...	...	...	1
Cost paid from Samaritan Fund	...	...	...	...	1
Total					17
Grants obtained for fares					3
Escorts arranged					3
Homes visited					3
Total					9

Outside agencies referred to—

Civic League ... ..	...	...	...	...	2
Hospital & convalescent funds	...	...	...	...	1
Moral welfare associations	...	...	...	...	2
Unemployment Assistance Board	...	...	...	...	3
Welfare departments of large firms	...	...	...	...	4
Churches ... ..	...	...	...	...	5
Rotary Club ... ..	...	...	...	...	1
Bristol Institute and Mission for the Deaf and Dumb	...	...	...	...	1
Total					19

1937

REPORT
OF THE
Visiting Medical Officer

BABIES' HOME, DOWNEND

Greta Hartley, M.D., M.M.

Matron - Miss M. Sanders.

Institution administered by the Health Committee.

BABIES' HOME.

REPORT FOR 1937.

Admissions and discharges.

Remaining from 1936	Admitted	Discharged	Deaths	Remaining on 31st Dec., 1937
57	70	68	—	59

During 1937 there was a slight decrease in the number of new admissions to the Babies' Home owing to the large number of destitute children staying for long periods, and constantly filling the home. Many other cases seeking admission through the medical officer of health on "medical and other grounds" have thus again had to be refused, proving that the present accommodation for 60 babies is totally inadequate.

Fifty-two destitute or deserted children were admitted through the public assistance committee, 13 of these showing signs of either marked rickets, anaemia, or malnutrition, etc., and being much below the normal physical standard.

The causes of admission of the 18 cases admitted through the medical officer of health were as follows :—

1936	Causes of admission.				1937
3	Prematurity	...	...	...	6
4	Marasmus—infants	...	...	...	2
4	Malnutrition—toddlers	...	...	...	4
1	Malnutrition with vomiting	...	...	...	—
1	Anaemia	...	...	...	2
3	Rickets	...	...	...	2
—	Recurrent gastric-enteritis	...	...	...	1
1	For observation	...	...	...	1
2	Recurrent chest trouble	...	...	...	—

All these special cases made rapid improvement, and were discharged in very good condition, with one exception, an infant with marasmus who was admitted to the home in a practically moribund condition and although transferred, died in hospital 48 hours later.

The general condition of all the children throughout the year has been good, but where medical or minor surgical (local anaesthetic only required) conditions have arisen, instead of transferring them to hospital as in previous years, they have been dealt with in the home, the babies being thus spared further upset through change of environment and feeding, and also effecting a saving of hospital beds. All the children made good recoveries, and there were no deaths in the home.

Thus four cases only were transferred to Southmead Hospital (13 in 1936), the causes being as follows :—

For operation for mastoid disease	...	1
„ „ „ enlarged tonsils	...	1
Acute pneumonia	... ..	1
Marasmus—admitted moribund to home		1

Infectious diseases.

The necessity for a separate isolation and receiving block has again been demonstrated, three separate epidemics of infectious disease having occurred (measles, whooping-cough and chicken-pox), involving chiefly children of from $1\frac{1}{2}$ to 3 years, and these for varying periods, severely restricting the available accommodation in the home.

All children over one year, admitted for more than three months have received a course of Schick treatment, and 30 babies were treated with prophylactic whooping cough vaccine.

Nursery Nurses' Training College.

During 1937 the number of applicants for training as pupil nursery nurses has steadily increased, seven being accepted, and there is now a waiting list, all vacancies up till November, 1938 being filled. Thirteen pupils entered for the elementary examination of the National Society of Day Nurseries, and twelve were successful.

1937

**REPORTS OF THE
Medical Officers**

STAPLETON INSTITUTION

S. Datta, M.D., Ch.B.

EASTVILLE INSTITUTION

J. A. Lanson Roberts, M.B., Ch.B.

Institutions administered by the Public Assistance Committee.

STAPLETON INSTITUTION.

REPORT FOR 1937.

1936	Admissions and discharges.				1937
915	Patients resident on 31st December	...	...	...	888
554	Admitted during the year	...	...	...	531
527	Discharged, etc., during the year	...	...	...	558
564	Certified under Lunacy Acts	...	...	...	539
146	Certified under Mental Deficiency Acts	...	...	...	143
205	Not certified	...	...	...	206

The discharges were made up as follows :—

To the Bristol Mental Hospital	...	205
To other institutions	...	84
Relieved or removed	...	93

Accommodation.

The number of patients permanently resident in the institution has continued to be very large, and this fact has necessitated an accurate survey to be made of the day room space available per patient in each of the wards. As a consequence it has been discovered that some 577 mental patients are living under conditions of over-crowding in the day room space allotted to them.

The means of alleviating this have been under discussion by the Public Assistance Committee for some time past.

To maintain bodily health among patients who are handicapped by a serious degree of mental deterioration an adequate supply of pure air by day as well as by night appears to be an essential requirement.

Training and employment of patients.

Occupation and training of a limited character are provided for the patients. A relatively small number are given high grade occupations such as boot repairing, tailoring, bakery, etc. A larger number are engaged in occupations of a miscellaneous character, such as farm, garage, boilers and domestic work.

	Male.	Female.	Total.
Total employed ...	187	143	330
Not employed ...	171	387	558
Total in residence ...	358	530	888

Infectious diseases.

During the summer the institution has been fortunate in not having had a single case of intestinal infection. The number of cases of ordinary diarrhoea of unascertainable causes have also been unusually few in number.

Cases of infectious diseases notified during the year are as follows :

Diphtheria...	...	2
Tuberculosis	...	2
Erysipelas	...	4
Scarlet fever	...	1

Deaths.

There have been 176 deaths during the year. The causes are classifiable in the following categories :—

Senility with hypostatic congestion of the lungs, etc.	91
Cerebral vascular diseases	... .. 43
Acute respiratory conditions	... .. 11
Carcinoma	... .. 5
Miscellaneous	... .. 26

EASTVILLE INSTITUTION.

REPORT FOR 1937.

Table A.

1936	Admissions and discharges.	1937
433	Admissions to sick wards from other parts of institution :	355
668	—casual wards and outside	722
1,101	Total	1,077
521	Discharges from sick wards to other parts of institution :	457
5	—Ham Green Hospital	2
97	—Southmead Hospital	89
77	—Stapleton Institution	67
1	—Mental Hospital	—
1	—Eye Hospital	—
2	—Hortham Colony	—
210	—Outside	268
1	—Removals	2
915	Total	885
167	Deaths	199

During 1937, 968 persons were admitted to the institution, 36 less than last year, 1,077 persons were admitted to the sick wards, (including 722 direct), the total comprising 631 males and 446 females. Admissions to the male sick wards decreased from 637 to 631 in 1937, and in the female sick wards from 464 to 446, a total decrease of 24 admissions.

The sick wards contain 208 beds of which an average of 194 have been occupied.

From the able-bodied section of the institution 1,139 male and 466 female cases have been given treatment (other than treatment in the sick wards), and 169 males and 216 females have been admitted to the sick wards.

Three babies and three mothers were admitted during 1937, one child and one mother removed from St. Asaph Institution, one child with mother from Southmead Hospital, and one baby and mother from outside. Five babies were discharged without their mothers to the Children's Homes.

The disease groups of discharges and deaths are given in Tables B and C.

Table B.

1936	Discharges.	1937
65	Influenza	88
1	Tuberculosis (non-pulmonary)	5
9	" (pulmonary)	4
9	Malignant disease	9
4	Rheumatism (acute including chorea)	8
	" (non-articular manifestations of	
	so-called "rheumatism")	4
25	" (chronic arthritis)	6
10	Venereal disease	2
4	Senile dementia	34
39	Senile decay	95
163	Disease of the nervous system and sense organs	83
90	" " respiratory system	145
161	" " circulatory "	167
108	" " digestive "	16
13	" " genito-urinary "	36
34	" " skin	116
112	Other diseases	67
68		
915	Total	885

There were 199 deaths in the institution during the year, the average age at death being 77.5 years.

Table C.

1936	Cause of death.	1937
60	Senility	79
11	Malignant disease	8
2	Acute illness	6
25	Disease of the nervous system	28
21	Disease of the respiratory system	44
28	Disease of the circulatory system	18
7	Disease of the genito-urinary system	5
13	Other diseases	11
167	Total	199

Casuals.

During 1937, 248 casuals were medically examined at the monthly examinations, and in addition 296 casuals were seen by the medical officer for various complaints, a decrease of 21 compared with the number treated in 1936. The number of casuals requiring admission to city institutions and hospitals has also decreased from 164 to 152 a decrease of 12, and were dealt with by transfer to :

Eastville, 135 ; Stapleton, 8 ; Southmead Hospital, 5

for the reasons stated in the following table :—

Table D.

1936	Admissions from casual wards to city hospitals and institutions.					1937
13	Aged and infirm	...	...	...	...	20
26	Skin conditions	...	...	...	...	24
10	Septic feet	...	...	...	...	9
16	Abscesses and septic conditions	...	...	...	...	7
7	Ulcerated legs and varicose veins	...	...	...	...	7
2	Venereal disease	...	...	...	...	2
3	Cardiac disease	...	...	...	...	7
22	Chest conditions	...	...	...	...	18
4	Rheumatism	...	...	...	...	7
11	Influenza	...	...	...	...	5
3	Malignant disease	...	...	...	...	3
12	Mental disease...	...	...	...	...	10
35	Other diseases	...	...	...	...	33
164	Total	...	...	...	...	152

1937

**REPORTS OF THE
Joint Institution and School
DENTAL SURGEONS**

**DENTAL WORK IN CITY HOSPITALS
AND CLINICS**

Hanbury Hazell, L.D.S., R.C.S. (Eng.)

J. Donald Rees, L.D.S., R.C.S. (Eng.)

DENTAL TREATMENT.

REPORT FOR 1937.

Institution.	No. of Patients	Extractions.		Anaesthetics.		Scaling	Dressing, etc.	Other Operations	Fillings.	
		Temp.	Perm.	Local	General				Temp.	Perm.
Southmead ...	208	11	412	58	84	3	6	75	—	8
Ham Green ...	220	8	290	145	12	13	5	78	—	5
Frenchay ...	155	163	34	38	59	1	5	1	2	13
Children's Homes...	199	81	30	15	40	5	1	156	—	13
Stapleton ...	442	—	430	108	91	98	1	33	—	—
Eastville ...	141	—	334	96	14	2	—	7	—	—
Hortham Colony	487	31	416	272	—	115	7	204	—	27
Maternity and child welfare centres :										
Expectant mothers	1471	—	1325	66	408	—	25	199	—	29
Nursing mothers		—	1637	87	482	—	32	223	—	38
Infants ...	2265	3718	—	8	1510	—	120	329	382	—
Total ...	5588	4012	4908	893	2700	237	202	1305	384	133

In addition, 216 patients were supplied with dentures (complete or partial : Southmead Hospital (14), Ham Green Hospital and Sanatorium (5), Tuberculosis Dispensary (2), Maternity and Child Welfare (153), Stapleton Institution (22) Eastville Institution (12), Hortham Colony (7), Winsley Sanatorium (1).

The joint dental surgeons are whole-time officers employed by the Corporation for dental work in city hospitals and institutions, health centres and clinics. The time given by these dentists to the various committees is shewn below :—

Sessions by	Health Committee	Education Committee	P.A. Committee	M.D.A. Committee
Mr. Hazell ...	136	318	7	45
Mr. Rees ...	195	273	44	—
Total ...	331	591	51	45

Joint report on maternity and child welfare dental work.

Treatment of mothers and infants under the *maternity and child welfare scheme* continues to be an important part of the dental

duties, and one cannot help noting the persistent decay of teeth of small infants who present themselves for treatment only when dental decay has advanced too far to respond to conservative measures. One can say that all children of three years of age with very few exceptions require dental treatment. Given two or preferably two and a half years to guard an infant's teeth and that child can start its school life with a healthy mouth and a full complement of teeth. Unfortunately dentistry is still largely regarded as being remedial rather than preventive. Attendances at the various clinics during gas sessions have been exceptionally good throughout the year with an average of 20 patients (pre-school children, expectant and nursing mothers) per session.

Report by Mr. Hazell :—

The dental treatment necessary at the city hospitals does not vary from year to year very much and it is only occasionally that gross dental or jaw lesions are met.

Treatment by extraction of teeth is the general rule at *Southmead Hospital* and *Ham Green Sanatorium* on account of oral sepsis or actual pain. The choice of anaesthetic is usually decided by the medical adviser and/or the suitability of the subject. At *Hortham Colony* it is pleasing to note the improved demeanour of these patients attending for treatment and they usually respond if given truthful and analogous explanations of what is to be done and what they should expect.

The children in the *Cottage and Scattered Homes* still maintain an improved dental condition ; the new arrivals being the only patients requiring extended treatment. Any urgent case is notified and conveyed by motor to Southmead Hospital Clinic for immediate treatment as formerly. This arrangement has been tried for several years and is very satisfactory also as regards patients from *Eastville Institution* requiring general anaesthetic.

I wish to record the helpful co-operation received from all the medical and nursing staffs, and in particular my dental attendant, Miss M. Stephens, whose quiet efficiency is invaluable.

Report by Mr. Rees.

Frenchay Park Sanatorium.

The dental condition remains good.

It is feasible that diet and general nursing care have a bearing on the absence of extensive caries and sepsis. The very few abscessed cases are anaesthetized with gas and oxygen. Inhalation anaesthesia is not suitable in active pulmonary cases, and the regional anaesthesia technique with novocaine is used. Patients receive subsequent dental care at the various school clinics.

Stapleton Institution.

Routine examination and treatment of every inmate is undertaken. Patients requiring gas administration are now pre-medicated with

a new barbiturate (seconal 3 gr. doses 1 hour before treatment). It is thus possible for the most refractory type of patient to be anaesthetized easily, and gross dental sepsis eliminated.

Suitable cases are recommended for dentures. In cases, however, where denture fitting is not practicable, the procedure is to perform the most essential extractions, leaving whenever possible a reasonably healthy mouth with some sound teeth.

Dr. Datta reports beneficial results from dental treatment of all grades of patients.

Eastville Institution.

Dental treatment at this institution is radical.

Local anaesthesia is chiefly used for extractions. In cases, however, where a local anaesthetic is contra-indicated, the patient is taken to Southmead Hospital for treatment under general anaesthesia.

The matron and master take a keen interest in dental welfare at this institution and note all cases requiring treatment.

Mouth washes are prescribed after each treatment.

1937

REPORT

OF THE

Meteorologist

H. H. Harding, F.R.Met.Soc.

ON THE

WEATHER OF 1937

/

Observation Stations :

Frampton Cotterell—Mr. H. H. Harding.

S. Andrew's Park, Bishopston—Mr. H. Vicars Webb.

METEOROLOGICAL OBSERVATIONS.

REPORT FOR 1937.

General Observations.

Mean pressure at 9 a.m., G.M.T. (corrected)...	29.893	inches.
Departure from average (25 years) ...	—0.059	inch.
Greatest pressure at 9 a.m. ...	30.695	ins. on Dec. 27th.
Least pressure at 9 a.m. ...	28.686	" " Oct. 23rd.
Total rainfall at Bishopston (St. Andrew's Pk.)	33.05	"
Departure from average ...	—2.04	"
Number of <i>rainy days</i> ...	197.	
Heaviest rainfall in 24 hours ...	3.25	" " July 15th.
Total rainfall at Frampton Cotterell ...	31.98	"
Departure from average (25 years) ...	+0.39	"
Number of <i>rainy days</i> ...	181.	
Departure from average (25 years)...	—3.	
Days with 0.04 in. or over ...	130.	
Days with less than 0.04 in. ...	51.	
Heaviest fall within 24 hours ...	2.46	" " July 15th.
Mean humidity at 9 a.m. ...	87.1%	
Mean temperature (max. & min.) ...	50	degrees.
Departure from average (25 years) ...	+0.8	degree.
Maximum temperature in screen ...	83.8	degrees on Aug. 6th.
Minimum temperature in screen ...	16.6	" " Nov. 21st.
Minimum temperature on grass ...	13	" " Mar. 10th & Nov. 21st.
Mean of warmest day ...	69.95	" " Aug. 13th.
Mean of coldest day ...	27.85	" " Dec. 18th.
Hours of <i>bright sunshine</i> ...	1502.5.	
Departure from average (25 years) ...	—34.	
Days of <i>bright sunshine</i> ...	113.	
Days entirely overcast ...	85.	
Days with fog observed ...	49.	
Days with thunder observed ...	17.	
Days with snow ...	17.	
Number of frosty nights in screen ...	50.	
Number of frosts on grass ...	89.	

A feature of this past decade has been the frequency with which its New Year's days have brought more or less rain and 1937 has been no exception, for the year opened with a wet and sunless day. Unfortunately, this was followed by so many of a similar character that although during this century January's number of rainy days has been equalled on three occasions (in 1920, 1926 and 1928) it has not been exceeded. Upon the whole, very mild conditions accompanied the wet weather, but the closing days provided a short spell of bitter easterly winds, and on the 29th the temperature failed to exceed freezing point, the only occasion of so low a mean temperature during the winter.

With the 31st came a return to rain and warmth, and throughout February falls occurred almost daily—this month being easily the wettest of the year. Although this is so, there have been occasions

this century when the month has brought to Bristol more rain. At Clifton the following heavier amounts have been recorded in the past :—

1866	...	4·80 inches.	1916	...	5·39 inches.
1876	...	4·87 ,,	1922	...	4·87 ,,
1900	...	6·40 ,,	1923	...	7·87 ,,

In regard to this last instance, it stands as a record for any month in the first half of the year since 1853 at least. February closed with its coldest day, a strong northerly gale prevailing with the only snowfall of the month ; this being only moderate locally, but heavy in many other localities.

March proved easily the most wintry month of the season, more frosty nights being recorded than throughout the whole of the three preceding months. Indeed, not since 1933, has a month given so many. Then, in December, which apart from February 1929, is the coldest month of this present century, 19 frosts were recorded in the screen, and 24 on the grass. A complete change in regard to temperature came with April, this month being entirely free from frost ; a feature, which only twice before this century (in 1908 and 1930) has been noted. The excess of warmth, indeed, proved greater than that of any month of the year and only on two former occasions has the month possessed so high a temperature. These were :—

1893	...	mean	52·4 degrees.
1894	...	,,	50·6 ,,

While, during its first three weeks, the mild weather coincided with almost continuous rains, an entire change came with the closing days, which brought a period of welcome sunshine.

May opened with five days of similar conditions and closed with the same number and as with April, was entirely free from frost. Two periods of rain occurred, the first from the 3rd to the 11th and the second from the 19th to 26th. These contained several substantial amounts, and the month was the fifth in succession to show an excess in this district.

No rain of consequence marked the first nine days of June. Then, following a day of great heat, a thundery period set in which gave some heavy local falls. One of these which affected our northern districts on the 13th gave the following amounts at Frampton Cotterell :—

7 a.m. to 9 a.m. (G.M.T.)	...	0·96 inches
9 a.m. to 10 a.m. ,,	...	0·66 ,,
10 a.m. to noon (approx.)	...	0·51 ,,
Total 5 hours 		2·13 inches

This rainfall, within so short a time, constituted a record for the station and in consequence of it, while the southern districts of the Bristol area possess in June the first month of the year with a deficient rainfall, to the north the average was once again exceeded.

Two very unusual features deserve special mention in July's weather. The first happened during the first few days, when, following an excessively hot close day, the temperature within 24 hours fell from a maximum of 77·5 degrees on the 3rd, to one of 59·5 on the 4th—a change quite unparalleled within so short a time for many years past. The second was a series of thunderstorms, which passed from west to east across England on the 15th, these bringing to Bristol and its neighbourhood the heaviest short period rainfall for this century, and for many earlier years. Researches over the past disclose only one previous instance of a fall of over three inches in the 24 hours. This is 3½ inches measured by Mr. W. F. Denning at Ashley Down on August 19th, 1876; while at Clifton, Mr. R. F. Sturge recorded just two inches on the same date. The heaviest daily fall recorded by this last authority during the 50 years, 1860 to 1910, was one of 2·91 inches on August 6th, 1865. Other remarkable falls given by Mr. Sturge are :—

2·91 inches in 48 hours	Mar. 11th & 12th, 1859
2·81 ,, in 24 ,,	July 13th & 14th, 1882
2·92 ,, in 48 ,,	Oct. 22nd & 23rd, 1882
2·40 ,, in 10½ ,,	June 28th & 29th, 1884
2·94 ,, in 48 ,,	Mar. 7th & 8th, 1889

Apart from this notable rain, the falls of the month, although frequent for the first three weeks, were slight. These were however accompanied by unusually cloudy skies with the last week. Then came an entire change to warmth and sunshine which continued practically throughout August, which proved the most summerlike month since July 1935. In respect to its rainfall this with two exceptions is the least recorded for the month in this district. These previous instances occurred last year and in 1880. No August, however, has up till this year given so few rainy days, eight in 1920 when the total rainfall was 1·30 inches being the previous lowest number. A feature of the month was exceptional warmth on several occasions during the earlier half at night time.

Summerlike conditions prevailed throughout the opening and closing days of September, but there were some substantial rainfalls between whiles. Although very warm, its mean temperature is 12 degrees below that of September, 1936. October's weather was an almost exact replica of that of a year earlier. In both cases practically no rain fell until the 22nd. Then, in both instances a series of falls commenced which continued unbroken to the close. In quantity however, there was a great difference, for whereas in 1936 the 10 days only yielded just over an inch, the same period on this occasion brought almost the full average fall. A further coincidence was the coming of the first gale of the winter season on the 26th, while a year ago this happened one day earlier.

After one of the longest intervals between the last spring frost and the first of the autumn, November was marked by some of the most severe in its history. Not since March 10th, 1930 has so low a screen reading been recorded at this station as that of the 21st, and to find so severe a frost in November, one must look back to 1919, when the temperature fell to 16 degrees on the 12th. Upon the

whole of late years November has brought mild weather, and it is now just 12 years since the month was so cold and wintry.

Altogether, since this century came in, there have only been seven Novembers as cold or colder. These were :—

1901	mean temperature	39·9	degrees
1909	„ „	40·4	„
1910	„ „	38·4	„
1915	„ „	37·3	„
1919	„ „	37·5	„
1923	„ „	36·9	„
1925	„ „	38·7	„

In its other aspects, the period was calm and dry, and its heaviest rainfall came with its closing hours, these also bringing a rising temperature.

Rainfalls were frequent throughout December but these were generally slight, and while many neighbouring districts were visited by heavy snowfalls, practically none fell in or near Bristol. While therefore, the month's rainy days equalled the average, its rainfall was more deficient than that of any month of the year except August. In its other aspects it proved the most wintry month of recent years. Although this was so its opening day was very warm and furthermore Christmas day proved very mild and its mean temperature of 46·3 degrees has only been reached or exceeded on this day on two occasions this century. These were

	dgs.	dgs.	dgs.
Dec. 25, 1920	max. 50·8	min. 44·8	mean 47·3
„ 1931	„ 54	„ 48·2	„ 51·1

In the same period our coldest Christmas days were 1914 and 1918 ; with means of 35 degrees and 35·9 degrees respectively.

From an agricultural standpoint the year was of a most favourable character. Its complete absence of serious spring frost ensured excellent crops of every description of garden produce, while the plentiful early rains and the subsequent warmth and sunshine of August and the two following months provided most favourable conditions from the farming point of view.

For the details of rainfall relating to St. Andrew's Park I am indebted to the courtesy of Mr. H. Vicars Webb.

Table 10.

Results of Meteorological Observations during 1937.

Taken at 9 a.m. G.M.T.

Month	January	February	March	April	May	June	July	August	September	October	November	December	Year	
PRESSURE	Mean pressure — inches	29.754	29.598	29.630	29.831	29.993	30.055	29.989	30.072	29.906	29.995	30.020	29.868	29.893
	Departure from average	—0.239	—0.352	—0.284	—0.083	+0.031	+0.037	+0.020	+0.123	—0.123	+0.058	+0.104	+0.001	—0.059
	Greatest pressure — inches	30.566 (8th)	30.097 (15th)	30.361 (30th)	30.446 (30th)	30.319 (28th)	30.314 (16th)	30.212 (18th)	30.323 (27th)	30.236 (4th)	30.542 (17th)	30.504 (28th)	30.695 (27th)	30.695 (Dec. 27)
	Least pressure — inches	29.037 (18th)	28.835 (28th)	28.872 (14th)	29.311 (10th)	29.593 (21st)	29.832 (29th)	29.682 (23rd)	29.709 (17th)	29.101 (17th)	28.686 (23rd)	29.253 (19th)	28.976 (14th)	28.686 (Oct. 23)
RAINFALL	Total rainfall at Bishopston — inches	4.10	4.63	3.47	2.73	2.75	1.42	4.23	0.85	1.99	3.17	1.77	1.94	33.05
	Departure from average — inches	+1.19	+2.16	+1.04	+0.41	+0.55	—1.14	+1.40	—2.83	—0.87	—0.81	—1.56	—1.58	—2.4
	Number of rainy days	25	27	23	20	16	10	16	5 ?	14	12	11	18	197
	Heaviest fall in 24 hours — inches ...	0.60 (18th)	1.12 (7th)	0.92 (14th)	0.87 (10th)	0.75 (8th)	0.46 (11th)	3.25 (15th)	?	0.62 (19th)	0.57 (29th)	0.48 (22nd)	0.33 (10th)	3.25 (July 15)
	Total fall at Frampton Cotterell — inches	3.87	4.06	3.55	2.86	2.43	3.14	3.21	0.49	1.68	3.16	1.40	2.13	31.98
	Departure from average — inches	+1.05	+1.39	+1.84	+0.98	+0.37	+1.00	+0.27	—2.68	—0.73	—0.14	—1.36	—1.60	+0.39
	Heaviest fall in 24 hours — inches ...	0.47 (18th)	0.73 (7th)	0.70 (17th)	1.02 (10th)	0.43 (3rd)	1.07 (13th)	2.46 (15th)	0.15 (13th)	0.45 (16th)	0.58 (22 & 29)	0.36 (30th)	0.35 (12th)	2.46 (July 15)
	Number of rainy days	24	24	20	16	13	11	16	5	13	10	10	19	181
	Departure from average — inches	+6	+8	+5.5	+1.5	—1	—1.5	+1.5	—11	+0.5	—6.5	—5.5	—0.5	—3
TEMPERATURE	Mean temperature —degrees ...	42.05	43.3	39.4	50.5	55.2	58.7	61.55	63.7	57.1	50.8	40.5	37.4	50.02
	Departure from average —degrees ...	+2.25	+3.2	—2.9	+4.1	+1.75	+1.1	+0.15	+4.0	+1.2	+0.8	—2.2	—3.5	+0.82
	Maximum in shade —degrees ...	53.7 (21st)	53.8 (15th)	53.9 (31st)	66.2 (23rd)	78 (29th)	79.8 (11th)	77.9 (14th)	83.8 (6th)	75.6 (7th)	70.2 (2nd)	55.8 (3rd)	53.8 (24th)	83.8 (Aug. 6)
	Minimum in screen —degrees ...	26.6 (15th)	28.1 (12th)	22.8 (10th)	34 (27th)	35.1 (1st)	40.3 (17th)	43.2 (8th)	43 (21st)	36.9 (21st)	32 (16th)	16.6 (21st)	19.3 (18th)	16.6 (Nov. 21)
	Extreme range —degrees ...	27.1	25.7	31.1	32.2	42.9	39.5	34.7	40.8	38.7	38.2	39.2	34.5	67.2
SUNSHINE, HUMIDITY, &c.	Hours of sunshine (estimated)	48	64½	120	122	203½	195	129½	239	164	94	69½	53½	1502½
	Departure from average	—14.1	—14.4	+6.4	—24	+17.4	+3.4	—54.2	+68.3	+13.2	—17.4	—11.1	—7.5	—34
	Days of sunshine	5	4	8	7	16	14	8	19	13	7	8	4	113
	Days overcast	12	9	7	3	6	2	9	2	4	7	13	11	85
	Mean humidity	91.8%	89.5%	85.5%	87.2%	83.6%	81.8%	83.5%	83.1%	84%	91.7%	91.5%	92.3%	87.13%
	Days with fog	6	3	0	1	4	0	1	8	4	8	8	6	49
	Days with thunder	0	0	2	2	2	4	1	3	2	1	0	0	17
	Days lightning only	0	0	0	0	1	0	0	0	0	1	0	0	2
	No. of frosts in screen	5	2	16	0	0	0	0	0	0	1	11	15	50
“ “ on grass	12	11	21	6	0	0	0	0	1	3	17	18	89	

1937

**REPORT OF THE
PREVENTIVE MEDICINE DEPARTMENT,
UNIVERSITY OF BRISTOL**

**Joint Report of the Bacteriological and Clinical Pathological Sections
for the year 1937.**

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Table 1.

Pathological and bacteriological examinations, 1937.

Nature of specimen examined.					Number
Diphtheria :	Swabs—primary	...	...	...	2,346
	—repeat	...	...	...	8,665
	Virulence tests	...	...	...	5
Special examinations :	Haemolytic streptococci	...	...	...	114
	Other swabs	...	...	...	68
Sputum :	Tuberculosis	...	...	...	1,570
	Other sputa	...	...	...	9
Blood :	Counts	...	...	...	317
	Chemical	...	...	...	190
	Bacteriological	...	...	...	21
	Serological (including typhus)	...	...	...	12
	Enteric	...	...	...	47
	Dysentery	...	...	...	3
	Malaria	...	...	...	1
	Van den Bergh	...	...	...	15
	Blood grouping	...	...	...	6
	Sedimentation	...	...	...	7
	Lead poisoning	...	...	...	1
	Blood for fragility	...	...	...	3
	Spirochaetes	...	...	...	1
	Platelets	...	...	...	3
	Reticulocytes	...	...	...	3
	Spirochaetal jaundice	...	...	...	2
Stomach contents :	For fractional test meal	...	...	...	39
Faeces :	General	...	...	...	30
	Occult blood	...	...	...	51
	Enteric	...	...	...	26
	Typhus	...	...	...	2
	Dysentery	...	...	...	222
	Tuberculosis	...	...	...	14
	Food poisoning	...	...	...	3
	Fat estimation	...	...	...	10
	Bacteriological	...	...	...	1
Urine :	General	...	...	...	559
	Tuberculosis	...	...	...	34
	Enteric	...	...	...	10
	Typhus	...	...	...	3
	Urea concentration	...	...	...	47
	Pregnancy tests	...	...	...	18
	Chemical	...	...	...	66
	Actinomycosis	...	...	...	1
	Proteus	...	...	...	1
	Bile	...	...	...	1
	Spirochaetal jaundice	...	...	...	1
Pus :	General	...	...	...	39
	Special	...	...	...	1
Cerebro-spinal fluid :	General	...	...	...	75
Pleural and other fluid:	General	...	...	...	56
Tissues :	Human	...	...	...	90
	Animal	...	...	...	7
Milk :	Tuberculosis	...	...	...	620
	Counts	...	...	...	21
	Accredited	...	...	...	433
	Pasteurised	...	...	...	261
	Pasteurised (schools)	...	...	...	342

Table 1 (continued).

Pathological and bacteriological examinations, 1937.

Nature of specimen examined					Number
Milk :	Br. abortus	...	...	...	16
	Dirt and taint	...	...	...	5
	Straws	...	...	...	26
	Special tests	...	...	...	9
	Ice creams	...	...	...	51
Rats :	...	...	...	...	966
Rats (typhus) :	...	...	...	...	12
Venereal Disease :	Wassermanns	...	...	...	2,763
	Complement fixation for gonorrhoea	...	...	...	988
	Cell count	...	...	...	9
	Chemical	...	...	...	9
	Lange	...	...	...	11
	Films	...	...	...	3,065
	Cultures	...	...	...	731
	G. C. vaccines	...	...	...	1
	Other vaccines	...	...	...	5
	Foods	...	...	...	98
Specific investigations:	...	...	...	...
Various :	Vaginal discharge for haemolytic streptococci	...	...	...	3
	Vomit —	...	...	...	4
	Measles serum	...	...	...	2
	Bathing costumes	...	...	...	4
	Tuberculin	...	...	...	16
	Abattoir specimens	...	...	...	38
	Bleeding time	...	...	...	1
	Disinfectants	...	...	...	3
	Worms	...	...	...	2
	Empty milk bottles	...	...	...	10
	School blood counts	...	...	...	191

BACTERIOLOGY.

*Report by J. D. Allan Gray, M.B., Ch.B., B.Sc., F.R.C.P.E.,
D.P.H., Senior Bacteriologist.*

The total number of specimens examined during the year shows a slight decrease compared with 1936. This is due to a fall of approximately 4,000 in the number of examinations for diphtheria, and is an indication of a welcome diminution in the incidence of that disease through the city during the year. Apart from these examinations for the presence of diphtheria bacilli the total number of other examinations undertaken shows a rise of nearly 2,000 or approximately 8 per cent. A fact often overlooked in the review of the total number of examinations undertaken is that many of the investigations carried out have been multiple ones. For instance, when a sample of blood is submitted for the Widal test it is the practice now to make seven examinations. Thus, in addition to testing the serum for the presence of agglutinins for typhoid H, typhoid O, paratyphoid A, paratyphoid B and paratyphoid C bacilli, a culture is made of the clot and an agglutination test made for *Br. abortus*.

There is little doubt that the general practitioner and hospital clinicians are making a freer use of the facilities provided in the laboratory. The pathological and bacteriological sections of the department have worked in close co-operation throughout the year with mutual advantages to both. The making of several

investigations demanding highly specialised technique has thereby been possible, an example being the publication of the results on non-caseous lymphadenitis (*vide infra*).

Close co-operation has also been maintained with the city analyst's department. This has proved invaluable in the elucidation of cases of suspected food poisoning and the provision of complete bacteriological and analytical examinations of numerous water supplies.

Milk.

(a) Examination of graded samples.

The Milk (Special Designations) Order, 1936, provided not only for new grades of milks but also for new tests and standards. Although it came into operation on the 1st June, 1936, it was only on the 1st January, 1937 that the "plate count" test for the new grades of "Tuberculin Tested" and "Accredited" milks was replaced by the methylene blue reduction test. In addition, the order prescribed that these grades were "to contain no coliform bacillus in one-hundredth of a millilitre." The Memorandum 139/Foods (January 1937) issued by the Ministry of Health, however, stated that "it is not necessary that every sample should be submitted to both tests." In spite of this both tests were carried out as a routine procedure.

The results are necessarily presented in a form different from and not strictly comparable with those of previous years.

Table 2.

	Tuberculin Tested Milks.				Accredited Milks.			
	Methylene Blue Reduction test.				Methylene Blue Reduction test.			
	Satisfied.		Not satisfied.		Satisfied		Not satisfied.	
	Coliform test satisfied	Coliform test not satisfied	Coliform test satisfied	Coliform test not satisfied	Coliform test satisfied	Coliform test not satisfied	Coliform test satisfied	Coliform test not satisfied
Jan.	19	2	0	0	12	2	0	1
Feb.	18	3	0	2	8	2	0	0
Mar.	26	5	1	0	10	3	0	1
April	17	7	0	1	3	2	0	1
May	14	2	2	2	11	0	1	1
June	20	3	1	1	15	0	0	2
July	30	3	2	8	6	0	3	2
Aug.	11	4	1	3	3	2	1	1
Sept.	27	9	1	7	12	4	0	2
Oct.	20	3	0	0	6	0	0	1
Nov.	23	4	0	0	9	0	1	2
Dec.	24	1	2	0	11	1	0	0
Totals	249	46	10	24	106	16	6	14

Tuberculin-tested milks.

329 samples were examined. Of these, 295 (89.7%) satisfied the methylene blue reduction test. 46 of the 295 (15.6%) failed, however, to satisfy the coliform test so that only 72.6% of the total number examined complied with both standards, 27.4% failing in one or other test. The bulk of the samples which did not

satisfy the methylene blue reduction test were obtained in the months from May to September. This is in spite of the fact that for samples taken between 1st May to 31st October, the period for the observing of the decolourisation was reduced, in accordance with the terms of the Order, from the usual $5\frac{1}{2}$ to $4\frac{1}{2}$ hours. It is of interest to note that of the 34 samples which failed to satisfy the methylene blue reduction test 24 (70·6%) also failed to satisfy the coliform test.

Accredited milks.

142 samples were examined. Of these 122 (85·9%) satisfied the methylene blue reduction test but 16 of the 122 (13·1%) failed to satisfy the coliform standard so that only 74·6% of the total number examined complied with both standards and 25·3% failed in one or other test. Of the 20 samples which failed to satisfy the methylene blue reduction test 14 (70%) also failed to satisfy the coliform test.

Pasteurised milks—Bacteriological tests.

Under the new order these milks should not contain more than 100,000 bacteria per millilitre. Of the 256 samples tested 218 (85·2%) complied with this condition. As the test was not altered by the Order of 1936 these figures are comparable with previous years. Thus the percentages of pasteurised milks which failed to comply with the standard were :—for 1934, 40·7%, for 1935, 3·3%, for 1936, 0·4%, and for the year under review (1937) 14·8%. The striking improvement of the past two years has therefore not been maintained and a renewed effort is evidently required to bring these results back to the high standard which was shown to be possible in 1936.

Although a coliform test was not laid down for pasteurised milks in the order of 1936, a presumptive test was made on each of the pasteurised samples for the presence of coliform bacilli in the majority of three tubes each containing 0·1 ml. of the milk. The results are shown in table 3.

Table 3.
Pasteurised milks.

	Complied with prescribed condition.		Failed to comply with prescribed condition.	
	Coliform bacilli absent.	Coliform bacilli present.	Coliform bacilli absent.	Coliform bacilli present.
January —	6	10	0	2
February ...	9	6	1	0
March ...	12	7	0	2
April ...	7	12	0	1
May ...	11	4	1	3
June ...	10	19	1	9
July ...	5	7	0	6
August ...	5	6	0	5
September ...	8	1	0	5
October ...	15	5	0	1
November ...	15	7	0	1
December ...	17	4	0	0
Total ...	120	98	3	35

Pasteurised milks.

The table shows that of the 256 pasteurised milks examined no less than 133 (51·9%) contained coliform organisms in 0·1 ml. Even when the 218 pasteurised samples which complied with the condition laid down in the Order are selected 98 (44·9%) contained coliform organisms in 0·1 ml. These results are undesirable and their repetition may be avoided by (1) the use of scrupulously clean apparatus and vessels and (2) efficient pasteurisation with special attention paid to the temperature, duration of holding and the absence of cold pockets and leaking valves in the pasteurising plants.

The biochemical tests for the efficiency of pasteurisation were made by the clinical pathological section and the results are given in the report of that section.

Examination of milks for tubercle bacilli.

616 samples were examined. Of these 40 (6·5%) were found to contain tubercle bacilli. The percentage of positive results for 1934 was 5·2%, for 1935 6·8% and for 1936 8·4%, and though these figures would appear to indicate a welcome reduction in the incidence of tubercle bacilli in milk compared with last year, they are not strictly comparable. This is due to the fact that when tubercle bacilli are found in a bulk sample from a large herd, several samples frequently have to be examined before the infection is traced to a particular cow. As in previous years, the number of samples showing excess of dirt, excess of organisms and the streptococci of mastitis is unfortunately high. At least thirty-five samples gave evidence of infection of the cows with *Brucella abortus*.

It is almost unbelievable that with the modern knowledge of the potentialities of tubercle bacilli in the production of disease a greater campaign is not undertaken in an effort to eradicate their presence in milk supplies. It is hoped in the coming year to examine approximately double the number of samples of milk for their presence and considerable alterations have been made in the department in order to be ready to cope with the proposed increase.

The taking of milk samples.

For the last few years the method of taking samples of milk from churns for bacteriological examination has caused a certain amount of disquiet. When ordinary (i.e., not homogenized) milk is allowed to stand in a churn, the fat globules and some of the cells and bacteria rise to the surface while the dirt and others of the cells and bacteria fall to the bottom. The movements of these particles take place at different rates so that samples taken from the same part at different times and samples taken from different parts at the same time show great differences in their bacterial content. For this reason the milk while still in the churn must be thoroughly mixed in order to obtain a sample as nearly as possible representative of the whole content of the churn. This is stressed in Memo 139/Foods (Jan. 1937) of the Ministry of Health. The most suitable instrument for this purpose is a plunger consisting of a perforated disc mounted at right angles on the end of a long rod. After thorough mixing by plunging up and down at least ten

times a sample of the milk is removed in a dipper (a small metal cup fitted with a hooked handle) and placed in a sterile glass bottle for transmission to the laboratory.

In the past the arrangements for sterilising the plungers and dippers has been far from satisfactory. The plungers have been washed and dried and taken out by the inspectors in small attaché cases. It was possible in the past therefore that organisms could be transferred to the milk from the plunger. This risk will now be eliminated by the provision of stainless steel plungers. The component parts of each plunger are fitted inside a steel box and after closure of the lid, the whole box and its contents sterilised by hot air (180°C. for 30 minutes). Discs of different diameters are provided for use with churns of different sizes. On opening the box the inspector can assemble the plunger without contaminating any part of it with the sole exception of the handle. Similarly in the past it has been impossible efficiently to sterilise the dippers as they and the canisters which contained them were made of metal secured by solder which could not withstand the heat required for their sterilisation, but recently the dippers and their containers have been adjusted so that they can withstand the necessary temperature.

It is hoped that by these means the bacteriological examinations of the milks will give a truer indication of their contents and help the officers of the local health authority in their endeavours to secure for the public a clean and safe milk supply.

Straws.

Owing to the increasing use of straws by school children for drinking their daily rations of milk, various samples of straws were examined with a view to obtaining a type suitable for the purpose with a reasonable standard of cleanliness. Pathogenic organisms were not found in any of the samples examined but certain straws were found to have a bacterial content so high that their use involved a potential danger to the children. It was eventually found that certain types of straws could be effectively treated so that, while a few still contained organisms, the majority were sterile. These organisms which remained could not reasonably be injurious to the health of the users. An important point elicited was the necessity for the packing of the straws in containers sufficiently strong to minimise the possibility of contamination subsequent to their treatment.

Ice creams.

50 samples were examined during the year. In 12 of these starch was present. Total counts were estimated in the same manner as that adopted for the examination of pasteurised milks. The results ranged from 400,000 to over 68 million organisms per millilitre. Had a richer medium been employed the probability is that these figures would have been considerably higher. Some of the results obtained were very undesirable.

The ice creams were also examined for the presence of coliform organisms, the method adopted being that detailed in "The Bacteriological Grading of Milk" (H.M. Stationery Office, 1937, pages 204—206, method 4). 0·001 ml. was the smallest amount

tested and in that amount Coli I bacilli were found in five of the samples and coli-aerogenes bacilli in 19 of the samples.

β. haemolytic streptococci were found in six of the samples—all six being of the "cold-mix" type.

One sample of ice cream was examined in connection with a case of suspected food poisoning but *Salmonella* and other pathogenic organisms were not found.

Water. *Routine examination of water supply.*

The wide publicity recently given to the distribution of typhoid bacilli by drinking water in other parts of the country has stimulated a more thorough examination of the city's water. The routine bacteriological examinations of the supply to the larger part of the city have been increased fourfold, and in addition regular bacteriological control has been inaugurated of the water from the Sherbourne spring which supplies the southern part of the city. The results obtained from both sources of supply have shown a consistently high standard of purity.

The numerous wells scattered throughout the city giving water, which might possibly be used for domestic purposes are now being examined bacteriologically. It will be seen therefore that every effort is still being made to ensure adequate bacteriological control of all water supplies to the city.

Swimming bath waters.

With the steady increase in the popularity of swimming, a constant watch over the standard of cleanliness of the water in swimming pools is necessary. The greater the number of bathers and the smaller the pool, the greater are the risks of the state of the water falling below any reasonable standard of cleanliness and the concomitant risk of transmission of pathogenic organisms. The requirements for healthy conditions include the provision of a water initially pure, its filtration or chlorination and the exclusion of contamination from various sources, especially the boots, bathing costumes and bodies of the bathers.

To ascertain the conditions pertaining in Bristol, samples of water from eleven different swimming baths were examined during July 1937—a month during which bathers were numerous and the amount of possible contamination consequently great. The high standard of each of the waters examined and the efficiency of the filtration plants were strikingly demonstrated. It was noteworthy that organisms of the coli-aerogenes group were not found in 100 ml. of any of the samples.

Several bathing costumes after being subjected to different methods of cleaning were examined bacteriologically. Efficient cleansing of the costumes is essential for the prevention of the direct transmission of organisms to the bodies of the bathers and of the fouling of the water in the pool.

Infections with haemolytic streptococci.

There has been a large increase in the number of specimens, especially throat swabs, which have been examined for the presence

of haemolytic streptococci. This is in part due to an increase in the incidence of these infections and in part to the introduction of new drugs for their treatment and the resulting desire on the part of the clinicians for help by the identification of the casual organisms.

Dysentery.

During 1937 the attention focussed throughout the country on typhoid masked to a certain extent the widespread distribution of dysentery which showed an exceptional prevalence during the autumn months. In the report for 1936 it was stated that there had been a marked increase in the number of specimens submitted for examination for the presence of dysentery bacilli. This increase has been more than maintained. The majority of the strains isolated have been of the *Sonne* type—an organism first recognised in Denmark during the Great War. It would appear that the organism is now endemic in this country, but fortunately in Great Britain the disease produced by it is associated with a degree of toxicity much less than in other countries. The increase in travel abroad may in part explain the greater frequency of the disease in this country for by now it is by no means confined to mental hospitals and children's institutions. The age incidence of the disease is definitely changing, and adults without any connection with such institutions have been commonly attached. It is probable that the disease is even more widespread than the bacteriological results would indicate, as in many cases the discomfort of the patient is not sufficient to warrant a consultation with his doctor far less a bacteriological examination of his stools. These mild cases are as infective as the more severe ones and the early high infectivity of their excreta facilitates the dissemination of the dysentery bacilli. *Early* examination of the stools in mild alimentary disturbance with diarrhoea is an urgent necessity from the standpoint of public health, so that the infective persons may be controlled. One of the measures which have been adopted in Bristol in an effort to lessen the spread of the disease in institutions is the routine bacteriological examination of the stools of the inmates of Hortham Colony.

Other alimentary infections

Several outbreaks of suspected food-poisoning were investigated during the year.

One outbreak in which *Bact. enteritidis* (Gaertner) was isolated, presented some unusual features. One individual only was affected. He had not eaten anything which had not been prepared in his own home, or which had not been shared by others. He was in the habit of taking to his work sandwiches for his mid-day meal. One day shortly before his illness, he partook of these when near a sewer, and he commented on the number of flies in the vicinity. It seems probable, therefore, that the flies conveyed the organism to his food from human or rat excreta in the sewer.

In another instance considerable evidence accumulated that an outbreak of a gastro-enteritis was due to the presence of staphylococcal toxin in brawn.

Meat and food examinations.

Apart from the routine examinations of specimens of meat and other foods submitted by inspectors for various reasons including the possibility of their having caused food-poisoning, the investigation on non-caseous lymphadenitis in imported lamb and mutton which had been begun by the senior clinical pathologist and Dr. A. G. Morison (late deputy medical officer of health) was continued by the cooperation of the two sections of the department. The further results were published in "The Medical Officer" 1937, Vol. 58 p. 175. While it was found that the disease could be artificially reproduced in English sheep by inoculation it was also frequently simulated in English sheep in the glands draining areas affected by foot-rot. It appeared that streptococci of the affected glands of the imported carcasses and enterococci found in those of the English sheep suffering from foot-rot produced a similar if not identical non-specific lymphadenitis.

A sample of decomposed cooked meat was submitted on account of an unusual blood red colour. This was found to have been caused by *Chromo-bacterium prodigiosum*, and brought to mind the long and romantic history connected with the appearance of "bleeding bread" and "blood drops" in sacred wafers. In mediaeval and later ages superstitions connected with the phenomenon, which in these more enlightened days is known to be a natural one, were responsible for many executions and murders of innocent persons in different parts of Europe.

Typhus.

Towards the end of the year, the occurrence of a case of typhus fever gave the unusual opportunity of making a full epidemiological and bacteriological investigation with the co-operation of the officials of the health department. The case was outstanding in that the patient was infected in this country. Serologically the disease corresponded to the type of fevers classed by Felix as "Type X.19." A thorough investigation to elicit the source of the infection resulted in the conclusion that an infected louse or an infected rat had been responsible for conveying the disease.

An account of the investigation was published in the *Lancet*, 1938, Vol. I, p. 490.

Academic activities.

A course in applied bacteriology has been approved by the University of Bristol for a University Certificate in Applied Bacteriology and as an additional subject in the Honours School of General Science. The facilities available in the department are ideally suited for the required teaching and it is hoped that the course will be useful to Science graduates and undergraduates in their training for appointments as laboratory workers.

Two higher degrees have recently been obtained by virtue of theses embodying bacteriological research work undertaken in the department. Miss Grizel R. Borthwick B.Sc. (assistant bacteriologist from 1935 to 1936) was awarded the degree of Doctor of Philosophy in the University of Edinburgh for a thesis entitled "Studies on

bacterial exotoxins with special reference to those of the staphylococci and the group of sporing anaerobes." and Miss Mary L. Mawson, B.Sc., was awarded the Degree of Master of Science in the University of Bristol for a thesis entitled "An investigation into the characteristics of yeast-like fungi found in human throats and human sputa."

CLINICAL PATHOLOGY.

*Report by Doris M. Stone, M.D., D.P.H.,
Senior Clinical Pathologist.*

In the report of this section for the year 1936 the development of increased laboratory facilities at Southmead Hospital and the inauguration of daily visits by the pathological staff were reported, and it is gratifying to discover that these improvements have resulted in a considerable increase in the amount and scope of the work carried out during 1937 both in the central laboratory at Canynge Hall and at the hospital itself. As against 1,580 specimens submitted to us by Southmead Hospital during 1936 we have dealt with 2,165 during the past year, and this increase has been largely in the examinations involving more complicated and specialised techniques (Table 5). A parallel increase has occurred in the number of specimens examined at the hospital itself, from 202 in 1936 to 690 in 1937. This has had the advantage of allowing more rapid reporting of results and closer co-operation between the pathological and clinical staffs.

Some of the unusual cases admitted to the hospital have been investigated with considerable thoroughness and certain of these have presented features of interest to other pathologists. One such case has been the subject of a demonstration to the Pathological Society of Great Britain and Ireland, and in conjunction with the department of pathology a paper on the subject has been prepared for publication.

Venereal disease.

The number of specimens examined for the venereal diseases clinic has also shown a considerable rise, from 6,360 during 1936 to 7,594 for the past year. This increase has been largely due to the introduction of cultural methods as a criterion of the cure of gonorrhoea, as an adjuvant to, rather than a substitute for, the established method of film examinations. It is hoped in the near future to expand this branch of the work still further by the adoption in addition to the Wassermann reaction of a confirmatory test for the diagnosis of syphilis, thus reducing to a minimum the chances of a mis-diagnosis. This is an important necessity in the case of a disease playing so integral a part in the deterioration of the national health.

Pasteurised milks.

The examinations of pasteurised milk undertaken by this section have as their object the determination of the exact temperature to which the milk has been exposed during pasteurisation. Legally, "Holder Pasteurisation" must be carried out at a temperature of

from 145°F to 150°F for a period of 30 minutes, this being the time-temperature combination considered to give the least possible alteration in the nutritive value and physical properties of the milk, while at the same time rendering it safe for consumption. Under-heating will permit of the survival in the milk of pathogenic organisms; overheating may alter the nutritive properties of the milk, and a constant watch must therefore be kept on all milk sold as pasteurised to ensure that the temperature limits of pasteurisation are strictly observed.

The record of the pasteurised milk tests (Table 4) indicates that the milk inspectors have found this test of considerable use in supervising the satisfactory working of the various pasteurising plants in Bristol. The number of tests has risen this year to nearly three times the previous figure, probably owing to the fact that in the past certain of the plants in Bristol have not been yielding satisfactory results. With the increased consumption of pasteurised milks the firms concerned have considered it advisable to instal new and more efficient pasteurising models and this has necessitated numerous tests by the department, in conjunction with the milk inspectors, to establish the reliability of the new plants. It is hoped that the result of the year's work will be a fall in the number of milks needing examination but a rise in the percentage of satisfactory results obtained.

It is of interest to compare these chemical tests with the results of the examinations made coincidently by the bacteriology section. Although the samples submitted to the two sections are distinct, the results obtained show that firms which consistently pasteurise their milk accurately seldom fail to conform to the bacteriological standards laid down. On the other hand pasteurising plants, which have been shown by us to be inadequate, may yield milk giving satisfactory bacteriological results during the colder months but with the onset of warmer weather their deficiencies become apparent. Again, milks, which from the bacteriological examination alone would appear to be entirely and consistently satisfactory are occasionally shown to be produced by overheating during pasteurising. By correlation of these two sets of tests it is therefore possible to obtain very accurate information relating to the pasteurised milk of the city, and it is hoped to render this correlation even more exact and therefore more valuable in the future.

Apart from the routine work this section has collaborated with Dr. L. Roberts, late of the Bristol public health staff, in an investigation into the nutrition of school children in Bristol. This has involved visits to the elementary schools twice a week by a member of the staff and the performance of about 200 complete blood counts. It is not possible at present to furnish details of the results obtained but it is hoped to incorporate the results in a paper to be prepared in the near future.

A further paper on "non-caseous lymphadenitis," produced in collaboration with the bacteriology section, was published in the *Medical Officer* of 23rd October, 1937.

Table 4.
Examination of pasteurised milks.

Plant	Total number of samples examined.	Correctly pasteurised	Heated below 142° F.	Heated above 150° F.	Raw
1	80	80	—	—	—
2	77	42	20	13	2
3	52	38	4	10	—
4	46	29	—	17	—
5	15	5	5	5	—
6	12	10	2	—	—
7	4	—	4	—	—
8	3	3	—	—	—
Not classified	12	4	2	4	2

Table 5.
Specimens examined for Southmead Hospital during the year 1937.

Blood :					
Haematology.	Films and counts	...	...	...	301
	Grouping	...	...	...	6
	Fragility tests	...	...	...	4
	Sedimentation tests	...	...	...	51
Biochemistry.	Urea estimations	...	...	...	126
	Sugar	..	...	...	29
	Calcium	..	...	...	10
	Uric acid	..	...	...	58
	Phosphorous and phosphatase estimations	...	...	...	7
	Plasma protein estimations	...	...	...	1
Bacteriology.	Cultures	...	...	...	11
	Agglutination reactions	...	...	...	5
Urines :	General	...	...	...	540
	Urea estimation	...	...	...	100
	Ascorbic acid	..	...	...	14
	Bacteriological examinations	...	...	...	23
	Pregnancy tests	...	...	...	15
Pus and swabs	...	...	...	...	63
Sputa	...	...	...	...	158
Faeces :	Bacteriological	...	...	...	47
	Occult blood tests	...	...	...	54
	Fat estimations	...	...	...	9
Gastric test meals	...	...	...	...	43
Cerebro-spinal fluids	...	...	...	...	52
Other fluids	...	...	...	...	17
Tissues	...	...	...	...	63
	Post mortem	...	...	...	27
Autopsies	...	...	...	...	51
V.D. examinations :	Blood for Wassermann reactions	...	...	...	273
	Films for gonococci	...	...	...	4
Various :	Vaccines	...	...	...	2
	Measles serum	...	...	...	1
					2,165

1937

**REPORT OF THE
PUBLIC ANALYST**

F. E. Needs, F.I.C.

Chemical Division,
Department of Preventive Medicine,
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STAFF, 1937.

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Marjorie E. Rumins

THE REPORT OF THE PUBLIC ANALYST, OFFICIAL AGRICULTURAL ANALYST AND GAS EXAMINER.

The report is divided into seven parts as follows :—

- Part 1. Food and Drugs Act.
- Part 2. Port samples.
- Part 3. Fertilisers and Feeding Stuffs Act.
- Part 4. Water, river Avon water and sewage effluents.
- Part 5. Miscellaneous analyses.
- Part 6. Gas Regulation Act.
- Part 7. Atmospheric pollution.

SUMMARY OF SAMPLES.

Table 1.

Food and Drugs Act	...	...	...	1,898
Food samples from the port	...	...	...	113
Water for chemical analysis	...	...	...	82
River water for city engineer	...	...	...	96
Sewage effluent	...	...	...	2
Fertilisers and Feeding Stuffs Act	...	...	...	27
Rag Flock Act	...	...	...	4
Health department	...	...	...	7
Public Assistance Committee	...	...	...	13
Gas Regulation Act	...	...	...	612
Pharmacy and Poisons Act	...	...	...	16
Atmospheric pollution	...	...	...	24
Agricultural Products Act	...	...	...	8
Miscellaneous	...	...	...	2
Total				2,904

PART I.

FOOD AND DRUGS ACT.

During the year, 1,898 samples were submitted for analysis under the Food and Drugs (Adulteration) Act, 1928. This number is 236 more than for the previous year and represents an increase of about 14 per cent. The population of the city, as estimated by the registrar-general at the middle of 1937 is 415,100, hence the number of samples per 1,000 persons is 4·57. This figure is well above that for England and Wales in 1936, the number of samples per 1,000 of the population being 3·59.

Table 2 shows the nature and number of samples submitted, with the number reported genuine and the number adulterated :—

Table 2.

ARTICLE	Number examined	Number genuine	Number adulterated	Per cent. adulterated
Milk	1,363	1,303	60	4·40
Skimmed milk	9	9	0	0
Condensed milk	7	7	0	0
Cream	6	6	0	0
Ice cream	9	6	3	33·33
Butter	115	113	2	1·74
Margarine	13	13	0	0
Lard	20	20	0	0
Cheese	14	14	0	0
Dripping	12	12	0	0
Cooking fat	4	4	0	0
Shredded suet	7	7	0	0
Nut cream butter (cashew)	1	1	0	0
Ground cashew nuts	1	1	0	0
Ground almonds	6	6	0	0
Fresh cream puffs	1	1	0	0
Dried fruit	16	16	0	0
Bread	7	7	0	0
Mineral water	14	14	0	0
Australian white wine	4	4	0	0
Non-alcoholic wine	3	3	0	0
Wine (blackcurrant)	1	1	0	0
Cider	4	4	0	0
Beer	8	8	0	0
Tea	16	16	0	0
Coffee	12	12	0	0
Cocoa	6	6	0	0
Table jelly	10	10	0	0
Gelatine	2	2	0	0
Mustard	19	18	1	5·26
Pepper	14	14	0	0
Sausages	19	16	3	15·79
Seasoning for sausage making	2	2	0	0
Chicken (filleted)	2	2	0	0
Polony	1	1	0	0
Kippers	1	1	0	0
Vinegar	12	12	0	0
Sauces and pickles	5	5	0	0
Cauliflower	1	1	0	0
Sugars	30	29	1	3·33
Starchy foods	21	21	0	0
Spirits	39	36	3	7·69
Drugs	41	41	0	0
Total	1,898	1,825	73	3·85

Number of samples examined ... 1,898

„ „ adulterated ... 73

„ „ genuine ... 1,825

Of the 1,898 samples examined, 630 were sealed (having been divided in accordance with the provisions of section eighteen of the Food and Drugs (Adulteration) Act 1928), and 1,268 were unsealed, or informal samples.

Two-thirds of the number of samples were informal, but the saving of time and trouble involved in the collection of these samples, applies only to the method of sampling.

It has been previously pointed out that the amount of analytical work carried out on informal samples is at least equal to, and in a considerable number of cases, much greater than that done on formal samples, chiefly on account of the fact that a larger quantity of the sample is available for an extensive examination.

Comparative figures for adulteration in Bristol for the last five years are given in Table 3.

Table 3.

	1933	1934	1935	1936	1937
Total number of samples ...	1,375	1,384	1,576	1,662	1,898
Per cent. adulterated milk ...	5.43	6.83	5.26	5.00	4.40
Per cent. foods, other than milk	3.07	3.26	2.45	4.12	2.68
Drugs	13.56	11.36	7.81	12.50	0
Total per cent. adulterated ...	5.02	6.07	4.31	4.69	3.85

The figures for England and Wales for the year 1936 are as follows :

Total adulteration rate	...	5.3%
Milk ,, ,,	...	7.1%

Milk.

Of the 60 samples condemned, 21 gave evidence of the addition of water, and 38 were deficient in fat.

One sample contained formaldehyde and one sample of milk showed the addition of water, together with 4 parts per million of annatto colouring matter.

Table 4 gives the figures for samples containing added water.

Table 4.

Number of sample.	Analytical data.			Result
	Fat	Non-fatty solids	Freezing point depression °C.	
X. 20	3·47	8·30	·483	2·3% added water
X. 31	2·90	7·92	·497	6·8% " "
X. 32	3·30	7·55	·481	11·1% " "
X. 39	2·92	7·90	·499	7·0% " "
X. 40	3·15	7·55	·472	11·1% " "
X. 41	3·10	7·30	·463	14·1% " "
X. 42	3·62	7·53	·478	11·4% " "
X. 200	3·04	8·24	·508	3·0% " "
X. 205	3·15	8·30	·515	2·3% " "
X. 432	3·30	8·00	·489	5·8% " "
Y. 207	3·80	6·36	·396	25·1% " "
Y. 222	2·50	5·20	·317	38·8% " "
Z. 244	2·30	5·35	·325	37·0% " "
Z. 258	3·20	6·75	·413	20·5% " "
Z. 259	3·20	6·75	·413	20·5% " "
Z. 398	3·55	7·72	·472	9·1% " "
Z. 399	4·40	5·90	·365	30·5% " "
Z. 429	2·56	7·27	·447	14·4% " "
Z. 450	3·77	8·13	·472	4·3% " "
Z. 453	3·65	7·50	·420	11·7% " "
Z. 454	3·65	7·50	·417	11·7% " "

In all of these cases of watered samples, the alleged added water as obtained from the Board of Agriculture standard was well confirmed by the freezing point depression. Each case was referred back to the source, yielding samples which gave normal figures for non-fatty solids, and freezing point depressions larger than ·530.

Sample X.20 was a morning milk and when referred back to the source, the corresponding morning milk gave a Hortvet figure of ·547, which shows that this sample probably contained about 10% rather than 2·3% added water.

Six of the samples appearing in Table 4 contained between 20% and 38% of added water. Three of these refer to one source where systematic daily adulteration appeared to be carried on, but unfortunately when a formal sample was collected on the following Sunday, the sample was perfectly genuine. It is not known whether this was due to religious scruples or to prescience, however, the vendor was caught later selling milk with 25·1% added water and fined £10.

Sample Z.429 not only contained added water, but also 4 parts per million of annatto colouring matter, and it can only be concluded that the deception was practised to mask the water added, so that the sample appeared to be rich cream milk.

The abstraction of fat was responsible for the condemnation of 38 samples, eight of these showing a deficiency of (or greater than) 10 per cent.

Five of these were particularly bad samples as will be seen in the following table :—

Table 5.

Number of sample	Fat	Non-fatty solids	Total solids	% Fat abstracted
N. 177	2.37	8.90	11.27	21.0
N. 379	2.48	8.80	11.28	17.3
N. 380	2.52	8.76	11.28	16.0
N. 537	2.50	8.75	11.25	16.6
Z. 265	2.35	8.45	10.80	21.6

Abnormal milk. Low non-fatty solids.

Table 6.

Number of sample	Specific gravity	Fat	Non-fatty solids	Ash	Freezing point depression Δ
N. 47	1029.4	3.85	8.35	0.75	.538
N. 55	1029.2	3.6	8.15	0.75	.538
N. 56	1028.5	3.7	8.15	—	.536
N. 83	1027.9	3.8	8.0	—	.543
N. 84	1028.6	3.5	8.1	—	.538
N. 230	1029.2	3.15	8.15	0.72	.532
N. 231	1029.5	3.75	8.4	0.75	.547
Y. 279	1028.5	4.9	8.35	—	.532

These eight abnormal samples were deficient in non-fatty solids, but yielded normal freezing point depressions. Thus, despite the figure for non-fatty solids being below the presumptive standard of the Board of Agriculture, these samples were returned as genuine without question. This shows the immense value that the freezing point determination is to the producer as well as to the analyst.

Abnormal milk. Low fat.

Thirteen samples were returned as abnormal, due to deficiency in fat, and were of course "appeal to cow" samples.

The fat usually ranged between 2.5 and 2.9%, but in two cases, the fat was below 2%. If indeed the cows were properly milked, i.e. the "strippings" included, then either advice should be sought regarding the feed of the cattle or the animals should be fattened for beef. Milk should certainly not be sold to the public produced from animals such as those in the two cases mentioned. Year after year, the average fat content from many hundreds of samples of milk that are examined in this city is approximately 3.5%, and it does seem about time that powers were obtained to weed out animals producing such poor quality milk as is done with animals suffering from tubercular disease.

Suspicious.

Forty-two samples of milk were returned as suspicious or of inferior quality. Twenty-four were either slightly deficient in non-fatty solids, or a freezing point depression below the normal was obtained. These cases were followed up to check careless handling and to trace leaking coolers.

The remainder were due to slight deficiencies in fat, and usually on re-examination at a later date the quality had improved.

Milk to institutions.

In six cases, where several churns formed one consignment a separate analysis of each sample has been made, and by arithmetical calculation, allowing for the different quantities of milk in the churns, average figures for the constituent parts have been given for the whole consignment. Usually in cases where the milk of one or two of the churns has been deficient in fat or non-fatty solids, the average figures for the whole consignment have been slightly above or below the standard, resulting in no prosecution. This method is based on the case *Wildridge v Ashton* (1924) but whether the milk supplied in this way under contract to large institutions is of the quality they have a right to expect, is a matter of grave doubt.

Average composition of genuine milk for the year 1937.

Table 7.

Month	Number for each month	Specific gravity	Fat	Non-fatty solids
January ...	94	1032.1	3.62	8.94
February ...	73	1031.7	3.48	8.81
March ...	88	1031.6	3.53	8.78
April ...	79	1031.4	3.54	8.57
May ...	83	1031.8	3.36	8.81
June ...	84	1031.7	3.32	8.76
July ...	74	1031.2	3.41	8.67
August ...	73	1031.5	3.54	8.74
September ...	118	1031.6	3.55	8.78
October ...	100	1031.5	3.73	8.79
November ...	103	1031.6	3.73	8.81
December ...	80	1031.8	3.73	8.87
Average for year	1,049 (total)	1031.6	3.55	8.78

A large number of samples of milk were taken direct from farms, and although these are primarily submitted for the detection of the tubercle bacillus, yet the figures of analysis give a very good guide as to the type of milk entering the city.

A few of these samples were of very poor quality, for which there is little excuse in these days. Help and advice can be obtained on any of the problems arising out of abnormal milk by the farmers and producers concerned, and this merely for the asking, from the Agricultural Advisory department of the University.

Freezing point of milk.

The Hortvet apparatus has been in constant use this year and has proved invaluable in differentiating between abnormal and suspicious

samples, besides confirming beyond all doubt those samples adulterated by the addition of water.

More than 400 determinations of the freezing point in the Hortvet apparatus were done on samples of milk during 1937; thus about 2,900 freezing point depressions have been determined since the apparatus was first used in May 1931. The average freezing point depression for genuine samples (i.e., excluding those reported as adulterated and suspicious) for the year was 0.542.

About two hundred samples of milk from an individual cow (cow 6) have been examined during the year, with special reference to the variation of the freezing point at the morning and evening milking. Besides the fat, non-fatty solids, ash and chlorine in ash, many determinations of protein and lactose were made, and the whole of the figures together with results of bacteriological and veterinary examinations have been submitted to the Public Analysts and Official Agricultural Analysts Committee of the Society of Public Analysts, and to the National Institute for Research in Dairying. There the investigation remains for the present, although work is still being done on the milk from this cow during the second lactation.

Cream.

Six samples were examined, the varieties being four raw, one tinned, and one half-price. All were free from preservatives.

The principal figures are as follows :—

Table 8.

Sample No.	Raw				Tinned	Half-price
	269	270	271	441	442	268
%						
Total solids ...	58.0	60.8	58.2	54.9	26.4	29.8
Fat	54.0	56.7	54.9	46.8	21.5	22.7
Ash	0.31	0.26	0.30	0.60	0.54	0.55
% Cl. in ash ...	10.1	17.1	15.5	9.0	14.0	13.2

From these figures there does not appear to be much difference between tinned cream and half-price cream.

A sample submitted as "Fresh Cream Puffs" was examined as to the nature of its interior. The cream interior was sweet and comprised about 45% of the whole confection.

Composition of cream interior :—

Fat	39
Non-fatty solids ...	36
Water	25
	<hr/>
	100
	<hr/>

From an examination of the fat, and the non-fatty solid matter, the cream interior consisted mainly of butter fat and sugar, so that

either raw cream or artificial cream, probably the latter, had been used in its preparation.

Ice Cream.

Nine samples submitted under this heading were examined, and three were condemned (all from the same source) since they contained only a negligible amount of fat, 0·12, 0·13 and 0·15 % respectively. Whole milk or cream could not possibly have been used in the preparation of these three samples, and they would have been more correctly described as "skimmed milk ices."

During the past eight years, ninety samples of ice cream have been examined in this department, and the fat of these samples, excluding the three mentioned above, has ranged between 1·5 and 14·7%.

The high fat variety is usually prepared from a mixture of milk, cream, milk powder, gelatine and sugar, whilst the low fat variety usually contains starch, and is probably prepared from milk, milk powder, or skimmed milk powder, custard powder, gelatine and sugar, or proprietary "ice cream" powder containing some or all of these constituents.

There is no legal standard for ice cream, but some years ago the Ice Cream Manufacturers' Association of Great Britain and Ireland recommended a legal definition of ice cream which should be "a frozen product containing not less than 8% milk fat and not less than 10% milk solids-not-fat."

I have never examined samples with such a negligible amount of fat, and the word "cream" seems particularly inappropriate to designate such samples of alleged "ice cream." It was decided by the Health Committee to bring the matter before the Ministry of Health, enclosing certificate of analysis relating to the formal sample which contained 0·15% fat, and to suggest that some action should be taken.

Adulterated samples other than milks.

Table 9.

Number of sample	Nature of sample	Result of analysis.
42	Beef sausages ...	contained less than 50% meat
48	Beef sausages (pre-served) ...	contained less than 50% meat
178	Butter ...	17% water.
220	Butter ...	16·4% water.
251	Ice cream ...	contained only 0·12% fat.
280	Ice cream ...	contained only 0·15% fat.
295	Ice cream ...	contained only 0·13% fat.
327	Mustard ...	contained 16% starch.
406	Whisky ...	3·8% excess water.
424	Sausages ...	26 parts per million sulphur dioxide.
501	Blackcurrant jam	23 parts per million excess of sulphur dioxide.
520	Gin ...	12·3% added water.
526	Gin ...	5·0% added water.

Fatty substances.

The following samples were examined. With the exception of two samples of butter, all samples were genuine.

115 samples of butter.

13	„	margarine.
14	„	cheese.
20	„	lard.
12	„	dripping.
7	„	shredded suet.
1	„	nut cream butter.
4	„	cooking fat.

All the samples of butter and margarine were free from boric acid.

Two samples of butter were condemned for the presence of 17% and 16.4% water respectively.

Apart from the two samples condemned, all were below the legal limit of 16% for moisture, the highest amount being 15.8%.

The samples of margarine were based on a coconut or palm kernel oil constituent, and cotton seed oil was present in one sample.

The fat content of the samples of cheese varied between 21.8% and 40.4%, giving a mean figure of 35.5% or calculated on the dry matter, a mean percentage of 50.1% fat.

All the samples of lard were genuine. The mean iodine number was 60.6 and the crystals from ether all gave a melting point greater than 63°C.

The mean fat content of the samples of shredded suet was 91.3% and the mean melting point was 50.3°C.

The four samples of cooking fat gave a mean iodine number of 72.1%. The nut cream butter contained 91.6% fat.

The following table gives the extreme and mean values of some of the physical tests commonly applied to fatty substances.

Table 10.

Nature of sample	Valenta test °C			Zeiss at 40°C			Av'age M.P. °C	Reichert Av'age	Polenske Av'age
	Highest	Lowest	Av'age	Highest	Lowest	Av'age			
Butter ...	56.5	31.0	41.5	44.9	41.2	42.8	...	28.5	2.19
Margarine ...	92.0	56.5	77.5	50.9	42.1	48.0	...	2.89	2.15
Lard ...	100.0	83.0	90.6	51.0	47.5	49.9	44.6	0.61	0.32
Cheese ...	43.	25.	33.5	44.6	41.2	42.9	...	...	...
Dripping ...	104.0	93.	98.1	47.8	46.4	47.2	43.8	...	...
Suet ...	100.5	99.	99.8	47.3	45.6	46.3	50.3	...	...
Cooking fat	93.	89.	91.	51.6	51.1	51.3	38.0	0.38	...
Nut cream butter...	35.	35.	35.	41.2	41.2	41.2	...	5.34	7.47

Starchy foods.

The following table gives the figures for samples examined under this heading.

Table 11.

Description	No. of samples	Moisture % average	Ash % average	Protein % average	Starch
Bread	7	41·6	1·18	—	Wheat
Corn flour	2	11·03	0·33	1·03	Maize
Flour, plain	5	12·90	0·51	12·65	Wheat
Flour, self raising	4	11·04	2·08	10·41	Wheat
Oatmeal	4	9·81	1·84	14·58	Oat
Rice	6	11·74	0·37	6·38	Rice

Sugars.

Thirty samples of sugars were examined, consisting of the following varieties :

Description.	No. of samples.
Jam	14
Sugar	10
Sweetmeats	6

One sample of black currant jam contained 63 parts per million of sulphur dioxide (SO₂) being 23 parts per million above the limit allowed by the preservative regulations, and was therefore condemned. A sample from the same source had previously been examined by another Authority, and found to be deficient in fruit. The fruit content of the above sample calculated on the insoluble solids to yield the equivalent of maximum fruit was above 30% and obviously the batches of jam were different.

Two samples of black currant jam were reported as suspicious or of inferior quality, on account of a slight excess of sulphur dioxide.

The soluble solids ranged from 67 per cent. to 73 per cent. as obtained from the immersion refractometer, giving an average figure of 70·7 per cent., which is well above the standard of the Food Manufacturers' Federation (68·5%).

The soluble solids figure as obtained from the specific gravity at 20°C of a 20 per cent. extract was only about 0·5 per cent. lower. In two cases the percentage of fruit obtained from the insoluble solids was about 5 per cent. below the amount guaranteed for the full fruit standard, and these were returned as suspicious or of inferior quality.

Cane sugar was used in their manufacture, the predominance of invert sugar being well marked in nearly all cases. The addition of 6 or 7 per cent. of glucose to 4 of the samples was evident from the polarimetric readings.

One sample of raspberry jam was submitted regarding a complaint of the presence of "wood pips." The pips were picked out, and it was noted that they all sank in water. They had the characteristic shape and wrinkled surface of the raspberry pip and transverse sections showed under the microscope the layers of endocarp, endosperm and embryo. Hence once again that hardy myth was unjustified.

Most of the samples of sugar yielded almost theoretical figures in the polarimeter before and after inversion, showing that they were practically 100% sucrose, and in the case of the dark "pudding" sugars, they contained about 90% sucrose. One of the latter contained 0.8 grain of tin per lb. which it is believed is sometimes used as a mordant.

The sweetmeats complied with the preservative regulations regarding sulphur dioxide, and no metallic contamination was detected.

Various foods (complaints).

Kippers (said to have caused illness).

Arsenic, parts per million	...	0.3
Lead and copper	...	nil
Sulphur dioxide	...	nil

Three tests for putrefaction were made, and very little difference could be found between the result of tests on this sample and on a freshly procured sample. Feeding experiments on animals resulted in two mice surviving after 48 hours.

The very slight trace of arsenic found is the normal amount natural to the herring, and nothing of a harmful nature was detected.

Cauliflower (said to have caused illness).

No evidence of a sulphur or arsenical insecticide was detected, nor metallic contamination, and three animals survived a period of 48 hours after feeding experiments.

Polony (said to have caused illness).

Tests for metallic contamination (copper, lead, tin, arsenic, etc.) were proved to be negative, as also were preservatives. Microscopical examination of a portion revealed normal components such as starch, meat, fat and flavouring, and nothing of a harmful nature could be detected.

Filletted chicken in jelly (alleged to be rabbit).

Two small pieces of bone were submitted with an empty container, and three glass containers with contents were purchased by the Inspector of the same brand and batch.

The two pieces of bone fitted together exactly to form the clavicle of the fowl. Very small pieces of bone were picked out from the samples purchased, and were identified as portions of the fibula and pieces of sternum from the fowl. These bones were identified by the Agricultural Advisory Department of the University.

The flesh from the samples was compared with boiled fowl and boiled young rabbit. The white portions had more of the texture of the flesh of the fowl than that of the rabbit, and the darker portions were not inconsistent with those from the leg or wing of the fowl.

A certain amount of diversity of opinion existed as to the taste, especially amongst urban dwellers, but the preponderance of opinion was in favour of chicken. Observers from rural areas were unanimous in favour of chicken.

Slides were prepared from the samples and from boiled fowl and rabbit. The transversely striated muscular fibres were practically indistinguishable from those of the fowl or the rabbit, and the width of the fibres measured between 20μ and 60μ .

A feather was removed from one sample and a piece of skin with attached long hairs typical of the fowl from another.

Hence there was very definite evidence of chicken and no positive evidence of rabbit in the samples.

Sausages.

Nineteen samples were received, three of these being preserved sausages. The highest amount of preservative found in these three samples was 232 parts per million which is well below the limit of 450 parts. One sample was condemned for the presence of 26 parts per million sulphur dioxide, having been submitted as an un-preserved sample.

Two samples of beef sausages, both from the same source, were received, and were sold to the inspector as "containing no bread."

The approximate percentage composition of the two samples was :

Total meat	...	35
Fillers, water and dye		65
		<hr/>
		100
		<hr/>

The sausages were stained with a fluorescent dye and consisted of meat, starch, seasoning and water. Microscopically the starch was indistinguishable from rusk or biscuit meal.

If from the notice "contains no bread," there is a possibility of the inference that the sausages consisted wholly of meat, then the analysis of these samples revealed a large percentage of material other than meat. The meat content was considerably less than 50%, which in my opinion should be regarded as the minimum amount of meat in a sausage, and both samples were condemned, but owing to the warranty held by the defendant, the case was withdrawn.

Ten of the samples of sausages were submitted for the quantitative estimation of meat, and some of the figures of analysis are given in the following table :—

Table 12.

No.	Water	Fat	N.F.S.	Protein	Starch	Ash (corrected)	Total Meat (approx.)
40	47.7	28.5	23.8	12.3	—	2.15	80
41	51.7	23.0	25.3	11.3	—	1.82	68
42	60.1	7.8	32.1	7.4	—	2.21	35
48	58.7	12.0	29.3	6.5	—	2.18	35
91	45.0	39.3	15.7	14.4	—	0.78	100
92	34.9	33.8	31.3	10.2	13.8	4.2	75
93	57.2	19.5	23.3	8.0	7.4	2.78	55
94	50.8	27.7	21.5	8.0	9.3	1.92	60
421	57.0	18.7	24.7	8.7	13.2	1.97	50
422	51.1	27.5	21.4	11.5	2.8	2.07	77

The analyses of the last five samples were made according to the modified method of Osman Jones. Sample 91 was submitted as "all meat," which was borne out by analysis.

Ground almonds.

Six samples were examined, and all were found to be genuine.

The figures obtained are given in the following table, and for comparison the figures obtained from a sample of ground cashew nuts are included.

Table 13.

	Mean of six samples.	No. 449 Ground cashew nuts.
% Moisture	4.32	4.09
% Ash	2.91	2.45
% Oil	57.0	48.9
Zeiss reading at 40°C. ...	56.5	54.4
= refractive index at 40°C. ...	1.4647	1.4623
Iodine value	94.9	80.6
Starch	absent	present.

Tea.

Sixteen samples were examined. They all gave typical microscopical appearances and were genuine.

The mean analytical figures were as follows :—

Total ash	5.66%
Soluble ash	3.38%
Alkalinity of soluble ash (as K ₂ O)	1.58%

There was no evidence of spent leaves or foreign structures.

Coffee.

Twelve samples were examined. The average specific gravity of a 10% decoction was 1010.0.

The samples showed normal microscopical appearances and all were genuine.

Cocoa.

Six samples of cocoa were submitted, giving the following mean analytical figures :—

Table 14.

	%
Moisture	6.82
Ash	6.87
Soluble ash	5.36
Alkalinity as K ₂ O	2.34
Fat	20.86
Zeiss reading at 40°C	46.7
Cold water extract	23.87
Ash of cold water extract (both expressed as percentage of dry fat-free substance)	6.36

No foreign starch and no arsenic was detected in any of the samples.

Pepper.

Fourteen samples were examined. All of these were found to be free from sulphur dioxide.

The average figures were as follows :—Moisture : 11·9% ; Ash : 0·97% ; Soluble ash : 0·25% ; Silica : 0·10%.

The highest amount of silica found in pepper was 0·33%.

All the samples showed the usual microscopical appearances and all were genuine.

Vinegar.

Twelve samples were examined, all of which were genuine, but one was suspicious or of inferior quality, containing slightly below 4% acetic acid. The remainder gave a mean acetic acid figure of 4·40%.

Five samples were of the malt variety and gave average figures as follows :—Specific gravity 1014·0, total solids 1·9%, Ash 0·22%.

Seven samples were of the wood vinegar type, and gave the following average figures :—Specific gravity 1008·3, total solids 0·39%, ash 0·04%.

Arsenic was well below the limit of $\frac{1}{100}$ grain per gallon in all the samples.

Mustard.

Nineteen samples were examined, and three of these were sold as mixtures or compound mustard. One sample, sold as pure mustard, was a mixture, and contained 16% wheaten starch. This sample was condemned. The following table gives the average figures for pure mustard, compound mustard, and the adulterated sample, and the depression of the oil content gives a very fair indication of the amount of starch present.

Table 15.

	Moisture	Ash	Oil	% Starch
Whole mustard ...	6·3	4·1	34·2	nil
Mustard compound	5·8	3·6	25·5	16
Adulterated sample	8·3	3·35	23·6	16

Beer and cider.

Eight samples of beer, and four samples of cider were examined. All of these were genuine and arsenic was detected in faint traces only.

Some of the figures obtained are given in the following tables.

*Beer.**Table 16.*

No.	137	138	139	140	301	302	303	304
Description	Bitter	Old	I.P.A.	Bitter	I.P.A.	Old	Bitter	Bitter
% Alcohol v/v	3.98	5.08	5.00	3.69	4.66	4.73	3.56	3.85
% Proof spirit	6.97	8.90	8.76	6.47	8.17	8.29	6.25	6.75
Acidity as % Acetic acid	0.13	0.26	0.23	0.14	0.19	0.20	0.19	0.19
Original gravity	1037.9	1048.1	1050.1	1034.3	1040.4	1047.0	1037.6	1036.5

*Cider.**Table 17.*

Number	296	297	298	299
%				
Total solids w/v ...	4.22	3.91	2.47	2.19
Ash w/v ...	0.20	0.11	0.36	0.31
Alcohol by vol....	4.88	4.73	5.32	5.32
Proof spirit ...	8.55	8.29	9.36	9.36
Fixed acidity ...	0.30	0.16	0.40	0.32
Volatile acidity...	0.16	0.26	0.23	0.25

Wine.

Four samples of Australian White Wine were examined, two being the subject of a complaint that they contained methylated spirits. Hence two further samples of different brands were purchased by the Inspector, and the four were examined in parallel. Some of the figures obtained are given in the following table.

Table 18.

Sample Number	195	200	221	222
Specific gravity of sample at 60° F. ...	1026.3	1025.9	1031.3	1020.0
Specific gravity of distillate at 60° F. ...	976.42	976.36	973.51	979.44
Equivalent to alcohol by wt. % ...	16.14	16.19	18.45	13.59
Equivalent to alcohol by vol. % ...	19.85	19.91	22.63	16.76
Proof spirit % ...	34.79	34.89	39.66	29.37
Methyl. Alcohol % ...	0.03	0.03	0.035	0.016
Sulphur dioxide ...	nil	nil	nil	nil

From the above figures, samples 195 and 200 appeared to be the same sample, and the trace of methyl alcohol was not very different

from the traces found in the samples purchased. Hence the complaint of the addition of methylated spirit to the wine was unjustified.

Spirits.

Thirty-nine samples of spirits were examined, the different varieties being as follows :—

Brandy	...	...	3
Gin	...	...	8
Rum	...	...	11
Whisky	...	...	17

Three of the above samples were condemned. One sample of whisky contained 3·8% excess water, and two samples of gin contained 12·3 and 5% added water respectively.

The remaining samples were genuine.

Drugs.

The forty-one specimens of drugs consisted of the following :—

Table 19.

Bicarbonate of soda ...	2	Grey powders ...	...	4
Boric ointment ...	3	Iodine tincture ...	...	4
Camphorated oil ...	4	Iodine ointment ...	...	2
Cinnamon ...	2	Iodine paint ...	...	1
Citric acid ...	2	Iodex ...	...	2
Cream of tartar ...	2	Olive oil ...	...	4
Epsom salts ...	3	Zinc ointment ...	...	3
Glauber's salt ...	3			

All of these samples were genuine, but one sample of tincture of iodine was reported as suspicious, being slightly deficient in iodine.

One sample was submitted under the fancy name of "iodine paint." It contained 1·6% iodine, 1·5 potassium iodide and 1·25% phenol and was prepared with industrial methylated spirits. The ridiculous price of 1/3 was marked on the carton, although it can usually be purchased for a few coppers. No preparation is included in the British Pharmacopoeia 1932, nor in the British Pharmaceutical Codex 1934 with the title "iodine paint," although it is quite likely that it may be purchased by the layman for the tincture or solution of iodine.

The samples of Iodex contained about 4% of total iodine (free and combined with the base), and the iodine ointments contained about the same amount, whereas they should contain 4% potassium iodide in addition, according to the B.P. Codex 1934. However, it was declared that they were compounded from the same formula as Iodex, so that it was more a case of misdescription than the omission of a constituent.

Of the four samples of camphorated oil examined, one only contained natural camphor, the other three containing the synthetic variety, but according to the B.P. 1932, either may now be used.

The grey powders were fairly accurately dispensed in half-grain tablets and contained the requisite amount of mercury.

Preservatives and colouring matter.

One sample of milk was condemned for the presence of formaldehyde, to the extent of six parts per million, and the defendant was fined £15 and £5 costs. Rarely does a year pass without finding at least one sample of milk to contain this harmful preservative, and it is to be hoped that heavy fines such as the above will have a salutary effect.

During the past 26 years, formaldehyde has been detected in 42 samples of milk, varying between 2 and 100 parts per million, but the practice of preservation with boric acid has completely died out in this city, for not one of the many thousands of milks examined during the past 13 years has revealed its presence.

One sample of milk contained four parts per million of annatto colouring matter together with 14·4% of added water. It can only be concluded that this sample was coloured to mask the addition of water—a particularly gross fraud.

No evidence of preservative was found in cream, butter or margarine during the year.

Only two samples were condemned for the contravention of the preservative regulations regarding sulphur dioxide. One was a sample of black currant jam which contained 63 parts per million of sulphur dioxide, being an excess of 23 parts over the amount of 40 parts per million allowed in jam. The other was a sample of sausages containing 26 parts per million of sulphur dioxide. No sulphur dioxide is allowed in sausages unless declaration is made by label or notice that they contain preservative, in which case the limit allowed is 450 parts per million.

The following samples are those which contained sulphur dioxide within the prescribed limits, and were genuine. Four samples of jam were reported as suspicious, as they contained a slight excess of sulphur dioxide.

Sulphur dioxide was detected in the following samples :—

Table 20.

Nature of sample	No. of samples	Highest estimation	Limit allowed
		Parts per million	
Beer	2	26	70
Cider	2	99	200
Dried fruit (a)	9	1,382	2,000
Dried fruit (b)	1	631	750
Gelatine	2	466	1,000
Jam	11	50	40
Mineral water	1	67	70
Sausages (preserved)...	2	232	450
Sugar	5	25	70
Sweetmeats	3	51	70
Table jelly	9	147	1,000
Wine (blackcurrant)...	1	93	450

Benzoic acid was detected in the following samples :—

Table 21.

Nature of sample	No. of samples	Highest parts per million	Limit allowed
Non-alcoholic wine ...	3	410	600
Mineral Water ...	1	68	120

PART II.

PORT SAMPLES.

The examination of food imported at the City and Avonmouth docks is carried out for two purposes,—one to ensure that the food regulations of this country are complied with, such as the presence and the amount of preservative, and the extent of metallic contamination ; the other to decide whether certain cargoes are fit for consumption when they show signs of damage. During the year 113 samples were received, of which 68 were examined primarily for the presence of preservatives.

The table below shows the amounts of preservative found :—

Table 22.

Nature of sample.	Number of samples.	Highest amount found. Parts per million. SO ₂	Limit allowed.
Dried fruit (a) ...	3	1,972	2,000
" " (b) ...	13	690	750
Corn flour ...	1	22	100
Cherries in brine ...	2	1,156	3,000
Drained cherries ...	1	38	100
Sugar ...	4	25	70
Blackcurrant pulp ...	5	1,190	1,500
Redcurrant pulp ...	1	890	1,500
Raspberry pulp ...	6	1,408	2,000
Strawberry pulp ...	3	1,686	2,000
Gooseberry pulp ...	1	630	1,500
Evaporated apples ...	1	1,413	2,000

(a) = apricots, peaches, apples and pears.

(b) = raisins and sultanas.

It will be seen from the above table that all the samples were within the limit allowed by the Public Health (Preservatives, etc., in Food) Regulations, 1927.

The following samples contained no sulphur dioxide.

Table 23.

Prunes ...	1	Cane syrup ...	1
Sultanas and raisins ...	3	Pickled cockles ...	1
Olives in brine ...	1	Walnuts ...	2
Prawns ...	1	Cranberries ...	1
Cauliflower in brine ...	1	Muscateles ...	1
Mixed pickles ...	1	Figs ...	2
Gherkins ...	1	Milk sugar ...	1
Marshmallow cream ...	1	Pearl barley ...	1

Two samples of machine skimmed milk powder and two full cream milk powders gave the following figures :—

Table 24.

No.	Machine skimmed milk powder.	
	A. 30	B. 1.
Moisture	3·7	1·8
Fat	1·5	0·1
Protein	38·6	35·6
Lactose	47·5	54·2
Ash	7·7	8·3
	99·0	100·0

Table 25.

No.	Full cream milk powder.	
	B. 26	B. 44
Moisture	4·7	4·5
Fat	24·3	26·1
Protein	27·5	25·5
Lactose	35·9	36·4
Ash	6·2	6·1
	98·6	98·6

Since the Public Health (Dried Milk) Regulations, 1923, provide that dried full cream milk shall contain not less than 26% of milk fat, sample B.26 was deficient in milk fat to the extent of 6·5%. Sample (B. 44) was obtained three months later from the same source, but a different consignment, and the milk fat was just above 26%, thus satisfying the regulations.

A sample described as Full Cream Block Milk gave the following figures :—

Table 26.

Fat	10·9
Protein	12·6
Sugars {	Sucrose 12·2
	Invert 27·6
	Lactose 19·8
Ash	2·9
Moisture	13·3
	99·3
Specific gravity at 60°F.	1·401
Preservatives and starch	absent.

This sample satisfied the standards laid down in the Condensed Milk Regulations.

Three samples of machine-skimmed sweetened condensed milk were examined. They contained about 45% sucrose and the milk solids were above the limit laid down in the Condensed Milk Regulations which require a minimum percentage of 26. They contained no preservatives and conformed to the statement on label regarding their equivalence in pints.

A full cream unsweetened condensed milk also satisfied the regulations, since the milk fat and milk solids were greater than 9% and 31% respectively.

Two samples of canned cream yielded very similar figures to the tinned cream one obtains in this country. The fat was just over 25%, total solids about 33% and ash 0.5%. Starch, gelatine and preservatives were absent.

In 1936, a sample of baking powder was found to contain an aluminium salt as the acidic constituent, and the manufacturers were warned that action would be taken if the powder were offered for sale. Accordingly, they agreed to produce a powder containing acid calcium phosphate instead of alum, for sale in this country. Two samples were taken, one early in the year, of the original powder (A.1), and one later, when the manufacturers had been given sufficient time to import their new stock (A.29) and it is clear from the figures of analysis that no objection can be taken to the powder as now marketed.

Table 27.

No.	A.1.	A.29.
Moisture	3.5	2.0
Carbon dioxide (CO ₂) total	14.6	13.1
available	12.8	11.9
Sulphuric Acid (SO ₃) ...	12.7	0.12
Phosphoric Acid (P ₂ O ₅) ...	6.8	28.4
Alumina (Al ₂ O ₃)	3.1	nil
Arsenic	nil	nil

A sample of oil-dressed rice appeared to be correctly described and gave the following figures :—

Table 28.

Moisture %	...	...	...	12.0
Ash %	...	...	...	0.35
Protein %	...	...	...	6.4
Microscope	...	...	...	Rice starch
Petrol ether extract=fat	...	...	...	0.45
Refractive index of fat at 40°C	...	...	...	1.4613
Iodine No.	...	...	...	70.0
Melting point	...	...	...	48°C.

A sample of Dutch lard and one of cocoa butter gave the following figures :—

Table 29.

	Dutch lard.	Cocoa butter
Fat %	100	100
Valenta	89.5°C	95.5°C.
Refractive Index at 40°C.	1.4590	1.4567
Melting point	46.5°C.	32.5°C.
Iodine No.	56.8	36.8
Starch	absent	
Cotton seed oil		
Sesame oil		

These figures accord with their description.

Three samples of brown sugar were examined for the presence of tin, as occasionally compounds of this metal are used as a mordant for the artificial dye which may sometimes be applied. One of these samples was free from tin, one contained a definite trace, while the third contained $\frac{1}{2}$ grain per lb.

A variety of canned foods were examined for preservatives and metallic contamination. They consisted of salmon, corned beef, meat galantine, tomatoes, cherries and sardines.

In four cases, metals were either absent or in such small traces as to be negligible—these were two samples of salmon, one of corned beef and one of meat galantine.

Other samples examined were corned beef containing 0.24 grains tin per lb., canned tomatoes with 0.38 grains tin per lb., and 1 part per million of copper, and canned cherries which contained 1 grain of tin per lb.

Nine samples of sardines were examined for lead, all with satisfactory results. The highest amount of lead found was 5.5 parts per million.

Samples of cocoa, cornflour, cane syrup, margarine and milk sugar gave genuine figures and accorded with their description.

A sample of buttermilk powder (for cattle feed) appeared to be a skimmed milk powder, and quite suitable as a component of a cattle ration. Some of the figures are given in the following table :—

Table 30.

Moisture %	6.5
Fat %	1.65
Milk protein %	33.8
Fibre	nil
Starch	nil
Iodine No. of fat	39.7
Refractive index at 40°C of fat	1.4593

A sample of cocoa offal, presumably to be used as a constituent of a cattle feeding stuff, was examined and gave the following figures :—

Table 31.

					%
Water	...	...	...	...	10·5
Oil	...	...	...	...	4·6
Albuminoids	...	...	...	...	17·2
Digestible protein	...	...	...	...	4·6
Fibre	...	...	...	...	13·2
Ash	...	...	...	...	11·2
Silica	...	...	...	...	2·2

Microscopical examination:—
Cocoa starch grains and
structures characteristic of
cocoa shell.

A sample of Herring Meal, said to be utilised for a pig feed, gave the following figures, and accorded with the description of a fish meal.

Table 32.

					%
Moisture	...	...	...	...	9·0
Ash	...	...	...	...	15·8
Salt (NaCl)	...	...	...	...	2·9
Phosphoric acid (P ₂ O ₅)	...	...	...	...	8·2
Nitrogen	...	...	...	...	11·0
Protein	...	...	...	...	68·8
Fat	...	...	...	...	6·5
Refractive index at 40°C. of fat	...	...	...	...	1·4792
Iodine no.	...	...	...	...	59·1

Samples examined for damage in transit.

A dirty sample of coarse desiccated coconut was examined in parallel with an uncontaminated one, but the chemical figures disclosed little difference between the two samples. The objectionable odour and dirty appearance of the one rendered it unfit for human consumption.

A sample of raisins was damaged by coming into contact with chestnut extract, but a simple washing with water was shown to be quite effective in removing the contamination.

Three specimens of flour from one consignment gave evidence of contamination with sea water or cattle urine, and the resultant smell and decomposition condemned them as unfit for human consumption.

Samples of flour from another consignment, together with the sacks in which it had been stored, were examined with a view to reclaiming such of the flour as was fit for consumption. It was clear from the examination however, that the damaged portions, from their dampness and musty odour, could not be considered as fit for human food.

One specimen of rye flour was submitted with a complaint of mustiness. The moisture was normal and there was no evidence of fungoid growth or contamination with fresh or sea water, Rye

flour has normally a characteristic odour, and as moulds were absent, the sample could not be regarded as unsound solely on account of a slight smell.

A sample of cheese was suspected to have been exposed to contact with a pungent smelling liquid used as a "rabbit stop". A solution of sulphur in linseed oil is often used for this purpose, but no such odour could be detected in the rind of the cheese.

Mice fed on portions of the rind showed no ill effects, and provided the rind were cut away from the cheese with a margin of about an inch, the remainder was quite fit for human consumption.

Green stains on a sample of bacon and the sacking covering it suggested contamination with copper salts, but an examination of the bacon showed that copper, lead and arsenic were absent. Metallic contamination was also absent in the sacking and the green colour was due to a water soluble organic dye mixed with brine and probably quite harmless.

FEEDING STUFFS. *Table 34.*

No. F. & F.	Nature of sample	Oil %		Albuminoids		Phosphoric acid. (P ₂ O ₅)		Salt	
		G.	F.	G.	F.	G.	F.	G.	%
18	Meat and bone meal	10·	9·3	40	40·9	14	15·3	1·1	
20	" " "	3·	3	46·8	48·4	14·9	14·9	2·2	
21	Meat meal	3·9	3·5	60·8	59·8	8·8	7·9	2·8	
22	" "	3·4	3·1	60·8	59	9·2	8·3	2·7	
		Water		Ash		Sand		Foreign seeds not greater than	
2	Sussex ground oats		8·8		3·5	1·77	—	2%	
3	" " "		8·7		3·96	2·23	—	2%	
4	Barley meal		11·0		2·6	0·78	5·3	1%	
5	" " "		9·9		3·9	1·5	5·8	1%	
6	Sussex ground oats		9·8		2·9	1·28	—	1%	
7	" " "		10·3		3·3	1·69	—	2%	
9	" " "		10·7		3·9	2·1	—	3%	
29	Barley meal		12·0		2·3	0·7	5·0	0·5%	
30	" "		12·4		2·4	0·72	4·5	0·5%	

G—Guaranteed.

F.—Found.

All but five of the samples of fertilisers fell within the limits of variation allowed by the regulations.

One of the samples of kainit contained 3·3% excess potash, and two samples of sulphate of ammonia contained an excess of 1·1% nitrogen in each case. For the sake of uniformity and consistency, an excess or a deficiency is reported as being outside the limits of variation, no matter what the constituent is, and be it a good or a bad feature. In these three cases, the excess was reported as not being to the prejudice of the purchaser.

One sample of kainit showed a deficiency of 2% potash, and the general fertiliser was deficient in soluble phosphoric acid to the extent of 4·03% with an excess of 5·79% insoluble phosphoric acid. It was thought that this deficiency of soluble phosphate might be explained by a reversion of the soluble to the insoluble variety. Hence experiments were made by mixing superphosphate No. 23 with limestone dust, potash and ammonium salts, and analysis after storage showed that the soluble phosphate decreased and the insoluble increased, the extent depending upon the period of time and the conditions of storage.

The four samples of meat and bone meal fell within the limits of variation, and the samples of ground oats and barley meal contained less than 3% of foreign seeds.

PART IV.

Water, etc., for chemical analysis.

Eighty-two waters were examined, the various sources of which are tabulated below :—

Table 35.

Source.	Number satisfactory	Number condemned	Total
City water supply from tap in laboratory 	14	—	14
City water—Sherbourne spring	1	—	1
Storage tanks of ships in the Port 	—	4	4
Wells and boreholes ...	5	39	44
Swimming bath waters ...	11	—	11
River and lake water ...	4	—	4
Subsoil leaks 	1	3	4

The city water supply was maintained at its usual high level of chemical and bacteriological purity, and the mean figures obtained are appended. One examination was made of Sherbourne spring water, which serves a portion of the southern part of the City, with results very similar to those of the main city supply.

Mean figures of analysis of city water supply, 1937. Source—laboratory tap at Canynge Hall.

Table 36.

	Parts per 100,000
Total solids	26·8
Mineral matter	22·0
Organic matter	4·8
Chlorine as chlorides	1·03
Total oxidised nitrogen	0·07
Free ammonia	0·002
Albuminoid ammonia	0·004
Total hardness	14·1°
Permanent hardness	3·8°
PH	7·6

Number of analyses = 14.

Free residual chlorine was present on six occasions, all occurring in the first half of the year.

	Maximum.	Minimum.
Colonies at 37°C	77	2
„ 20°C	217	8

Analyses made of four waters from the storage tanks of ships at the port showed that in each case the water was from a satisfactory source. It would appear that the conditions of storage tended to cause some deterioration, as the bacteriological counts were high, and in two cases the coli-aerogenes organisms were numerous.

During the latter part of the year, intensive work was carried out in the examination of well waters, forty-four of which were analysed. With five exceptions they were unsatisfactory, many being so polluted with sewage and surface drainage as to be potentially dangerous.

The eleven swimming bath waters were received from each of the baths under the control of the Baths Committee. All the samples fulfilled the conditions suggested by the National Association of Bath Superintendents. The absence of nitrites, and the presence of free chlorine, varying between 0·2 and 1·0 parts per million, showed that the purification plants at the various baths were working efficiently.

Two samples of river water were taken from the approach to Holesmouth, for the purpose of obtaining information regarding the composition of Severn water. It appeared that the estimated amount of sea water was much less than is usually found in the lower reaches of the Avon at high tide.

An examination was made of the water in Eastville lake, owing to the suggestion of possible infiltration of sewage from a sewer running alongside the lake. It was clear from the analysis that there was no infiltration, in fact the dissolved oxygen content at the outlet was three times that at the inlet.

Four samples of percolating water or subsoil leaks, were shown to be sewage, and in two cases mixed with trade waste.

Sewage effluents.

Two samples were examined. One effluent from the Municipal Airport at Whitchurch was considered to be suitable for discharge into a water course.

The other was a sample of trade waste and was found to be so "strong" as to require considerable dilution before it could be rendered innocuous to fish on entry to the river.

River Avon water.

In connection with the experimental work on sewage disposal for the city engineer, ninety-six samples of the river water, collected at six points between Netham weir and Pill ferry were examined.

The septicity of each sample was assessed in the manner described in previous reports, at the end of three days and again at the end of seven days.

In twenty-two cases septicity developed in three days, while fifty-four samples were definitely septic after seven days storage.

PART V.

Miscellaneous analyses.

- (a) Rag Flock Act.
- (b) Examinations for the Health Department.
- (c) Public Assistance Committee.
- (d) Agricultural Products Act.
- (e) Pharmacy and Poisons Act.

(a) Rag Flock Act.

Four samples were examined to see whether they conformed to the standard of cleanliness laid down in the Rag Flock Act.

The amounts of chlorine present were 27, 17, 10 and 10 parts per 100,000, which is below the limit of 30 parts permitted by the Act.

(b) Examinations for the Health Department.

(1) Specimen of ham suspected of causing illness. The sample was tested for arsenic, lead and copper with negative results.

(2) A sample of wine was examined, which was suspected to have caused serious illness, with vomiting and collapse. The case was outside the boundary, but the matter appeared to be so urgent, that it was thought best to examine the sample first, and to find out to whom it should have been sent afterwards. Arsenic was found to be present in large quantity, and the facts were reported to the police immediately.

(3) Specimens of urine, hair, finger nails and sputum were examined for the presence of arsenic. These were prepared for examination in the Marsh apparatus, and in no case was evidence given of a stain.

Arsenic was therefore absent in these four specimens.

(4) Cheese sandwich. Portions of the sample were examined for arsenic, antimony, mercury, lead, copper, and oxalic acid. These were proved to be negative. There appeared, therefore, to be nothing of a poisonous nature in the sample to account for any gastro-intestinal disturbance.

(5) Specimen of urine for lead.

The specimen was examined for lead by the diphenyl-thiocarbazono extraction method. Lead found = 0.20 parts per million.

(6) Sample marked "Chlorodyne, doubtful, poison."

Samples of Tinct. Chlorof. et Morph. B.P. '85 (synonym : Chlorodyne), and Tinct. Chlorof. et Morph. Co. B.P. 1914, were purchased and examined in parallel with the doubtful sample.

The doubtful sample was obviously not the B.P. 1885 tincture since it contained no treacle.

	Doubtful sample.	B.P. 1914 Tincture
Reaction	Faintly acid	Faintly acid
Odour	Chloroform and cyanide.	Chloroform and cyanide.
Specific gravity at 60°F.	1.0102	1.0046
Hydrocyanic acid % ...	0.05	0.10
Morphine hydrochloride %	0.70	0.77
Cannabis	present	present

The sample was not Chlorodyne or the Tincture of Chloroform and Morphine B.P. 1885, but appeared to be the Compound Tincture of Chloroform and Morphine B.P. 1914.

(7) Viscera of cat for phosphorus. Portions of liver, kidney and spleen were acidified and distilled in dark room. There was no evidence of phosphorus in the viscera, and nothing was present which would have inhibited the test.

(c) Public Assistance Committee.

Thirteen samples were examined for this Committee, and consisted of the following :—

Bread	4
Soap flakes	1
„ powder	1
„ soft	2
„ carbolic	1
„ yellow	1
„ brown windsor	2
Floor polish	1

The samples of bread gave normal figures for moisture (about 42%) and the acidity expressed as lactic acid was about 0·18% which is regarded as a normal figure. There was no evidence of moulds microscopically, and there appeared to be nothing in the samples to offer ground for complaint.

The varieties of soap complied with the specification in all cases excepting three samples which were slightly deficient in one constituent or another.

The sample of floor polish gave the following figures :—

Table 37.

Turpentine etc., by steam distillation w/w.	73%
Non-volatile residue = waxes	25%
<hr/>	
Turpentine, etc.—	
Specific gravity at 60°F	·8064
Refractive index at 20°C.	1·4444
Iodine No.	102·4
Distillation range	160—180°C.
<hr/>	
Waxes :—	
Saponification value	35·9
Acid value	5·9
Resin	3·2
Unsaponifiable matter	87·3

From these figures, it was concluded that the solvent consisted of $\frac{1}{3}$ turpentine and $\frac{2}{3}$ turpentine substitute. Also the constants of the waxes did not accord with those given by a mixture of waxes prepared in the laboratory from the specification.

(d) Agricultural Products, etc. Act, 1928.

The following samples of eggs were examined with the results as stated :—

Table 38.

No.	Result.
A.P. 1 6 eggs	three bad, three probably stale.
2 3 "	somewhat stale.
3 5 "	one bad, two normal.
4 6 "	no obliteration of "mark."
5 6 "	probably new laid.
6 3 "	" " "
7 4 "	" " "
8 5 "	" " "

All of these eggs were "candled," and examined under the ultra-violet lamp. Also the shells were tested for silicate preservation, and for porosity.

(c) Pharmacy and Poisons Act, 1933.

The following samples were examined under this Act :—

Hair dye	...	...	1
Disinfectant fluid	...	...	4
Rat poison	...	...	2
Izal	...	...	1
San Izal...	...	...	1
Lysojel	...	...	1
Weed killer	...	...	1
Ruby balm	...	...	3
Thawpit...	...	...	1
Recto	...	...	1

P. & P 1. The sample of hair dye contained copper and nickel salts, but was free from lead, pilocarpine, cantharidin, phenylene and tolylene diamines.

P. & P 2. This disinfectant fluid was probably a mixture of creosote oil with a lighter mineral oil, and containing only traces of tar acids.

P. & P 3. This disinfectant fluid contained only traces of phenols, and at least 1 % β -Naphthol which is a phenolic substance not included in the Poisons List. The phenol coefficient, as tested by the Rideal-Walker test, was found to be only 0·23—probably due to the immiscibility of the substance with water.

P & P 4. Similar in composition to P & P 3. Phenol coefficient 0·4.

P & P 5. This was a rat poison containing 1% yellow phosphorus, and was therefore a Part I poison.

P & P 6. A sample of Izal, containing 42% Phenols, and therefore a Part II poison. Phenol coefficient 12·8.

P & P 7. Lysojel contained 49·8% Phenols and was therefore a Part II poison.

P & P 8. A weed killer containing 62·9% arsenic (As_2O_3) and was a scheduled Part II poison.

P & P 9, 10 and 16. These were samples of Ruby Balm, containing 8·8%, 7·7% and 7·3% Nitrobenzene respectively, and were Part II poisons.

P & P 11. Thawpit was a liquid with specific gravity at 60°F 1·604 and boiling point 76·5°C. It was carbon tetrachloride, which is not included in the Poisons List.

P & P 12. The sample of "Recto" consisted of a colourless liquid and two small packets containing crystals of permanganate of potash. The liquid would appear to have been equivalent originally to a 10% solution of sodium bisulphite, which by storage, had lost part of its sulphur dioxide, and a part had been oxidised to sulphate.

P & P 13. This was a disinfectant fluid containing 7·5% of phenols and therefore included in Part II of the Poisons List.

P & P 14. This sample of San Izal contained 24% phenols and was therefore a Part II poison.

P & P 15. This paste was a rat poison containing fat and red squill, and no evidence of any substance in the Poisons List was detected.

PART VI.

Gas Undertakings Acts, 1920—1934.

Three testing places are provided and equipped with the necessary apparatus by the Bristol Gas Company for carrying out the prescribed tests laid down by the Gas Referees for calorific value, pressure and purity.

These prescribed tests are made by the Gas Examiner and members of his staff to ascertain whether the Company are supplying gas in accordance with their obligations under the above Acts. A quarterly report is issued, particulars of which are available to the public.

The three testing places are situated at Avon Street, Stapleton Road and Canons Marsh, and each of these stations are visited at least twice a week to carry out the requisite tests.

At Avon Street and Canons Marsh testing stations, the calorific value has been determined by the Fairweather continuous recording calorimeter, and the pressure by means of a continuous recording chart of the pressure gauge.

The calorific value of gas means for the purposes of the above Acts, the number of British thermal units (gross) produced by the combustion of one cubic foot of the gas measured at 60°F under a pressure of 30 inches of mercury and saturated with water vapours. This gross calorific value includes the latent heat which is liberated when the water vapour contained in the products of combustion is condensed. The British thermal unit (B.Th.U) is the quantity of heat required to raise 1 lb. of pure water through 1°F, and is equal to about 250 gram-calories or 0.25 kilogram calories.

The Fairweather continuous recording calorimeter at Avon Street behaved extremely well during the year 1937, for during the first, second and fourth quarters of the year there was a continuous record of the calorific value of the gas supplied, night and day, week after week, and no adjustment of any kind was made to the four components, i.e., rates of gas supply and water supply, variations of gas volume from the normal, and the pen mechanism. It was only necessary to make one non-recording test during the whole year, which fact shows up the continuity of the chart at Avon Street in a marked degree.

The number of days in the year for which calorific values were ascertained by the recorder at Avon Street was 359, leaving only 6 days for the four quarterly cleans, when the calorimeter was stopped. The average calorific value for this station was 481.2 B.Th.U (gross) per cubic foot. The maximum pressure was 7.2 inches of water, and the minimum pressure 3.2 inches.

The Fairweather continuous recording calorimeter at Canons Marsh worked well during the year, except for the first quarter of the year, when 22 non-recording tests were made due to stoppages

of the instrument. The number of days in the year for which calorific values were ascertained by the recorder was 265, and 35 tests were made with the Boys non-recording calorimeter. The average calorific value for this station was 481·0 B.Th.U. (gross) per cubic foot, and the maximum pressure recorded was 9·6 inches of water and 2·8 inches was the minimum.

At the Stapleton Road testing station, the prescribed number of testings was 204, and these were made on the official Boys non-recording calorimeter. The average calorific value for the year at this station was 480·6 B.Th.U. (gross) per cubic foot, the highest test giving 492·3 B.Th.U. and the lowest test 470·5 B.Th.U.

The prescribed number of testings for each quarter of the year for the three stations is 153 (or 612 for the year, 80 being allotted to Sundays). The average calorific value for the whole undertaking for the quarter is ascertained from all results obtained by recording and non-recording calorimeters by the method prescribed by the gas referees in the current general notification, and the following table gives the figures for the four quarters of the year 1937 :—

Table 39.

Quarter ended.	Calorific value B.Th.U. (gross) per cubic foot.	Pressure.	H ₂ S.
31st March ...	480·9	above 2 inches	nil
30th June ...	481·0	" " "	"
30th September	480·9	" " "	"
31st December	480·9	" " "	"

The declared calorific value is 480 B.Th.U. (gross) per cubic foot.

PART VII.

Atmospheric pollution.

The degree of pollution of the atmosphere of the city was measured for the third year, the investigation having commenced as far as Bristol is concerned on January 1st, 1935. Several large cities have been making observations for more than 20 years.

The pollution is measured by the collection and analysis of the insoluble and soluble matter which is deposited from the air in a deposit gauge, consisting of a large glass bowl of known area, connected to a glass reservoir. On the last day of each month this reservoir containing the rain water and deposit is replaced by a clean one.

One deposit gauge is set up in the Zoological Gardens, Clifton, and another on the flat roof of the Water Works Buildings in Marsh Street, these two positions representing a residential and an industrial area respectively. Again I wish to express my thanks to the gentlemen concerned for permission to place the gauges in these two positions.

The monthly results with totals for the year are given in tables 40 and 41 in tons per sq. mile and are also shown graphically.

From a consideration of the total solid matter figures obtained at the Zoo and the Water Works for the year 1937, it appears that the pollution of the atmosphere in the centre of the city was at least twice as great as that at the Clifton Zoo. But even at the latter position, more than 19 tons of soot and 1·7 tons of tar were deposited per square mile during the year, whilst in the centre of the city, the position was far worse—57 tons of soot and 3·4 tons of tar being deposited per square mile.

From a comparison of the figures obtained in 1936 and 1937, there appears to be a definite improvement at both positions during the year 1937. Both at the Zoo and at the position in the centre of the city, the total solid matter (suspended and dissolved), the soot and the sulphates are appreciably less than in 1936.

This branch of work is done in conjunction with the Department of Scientific and Industrial Research, the figures of analysis being reported to the Department each month.

There are 133 deposit gauge stations throughout the country, which shows the growing attention being given to the subject of pollution of the air.

The detailed returns for each station are tabulated in a report issued by the Department of Scientific and Industrial Research, and the 23rd report for the year ended March 31st, 1937, is very instructive and interesting to supporters of atmospheric reform.

The report classifies the degree of pollution of the air at each station, based on the annual mean monthly deposit. From this report it appears that the air at the Zoo is placed in Class A for the first time which represents "clean" air, and that at the Water Works Class B or "fairly clean." Also taking the mean monthly deposit at the Zoo as 11·12 tons per square mile there are 98 stations with figures greater than this figure and 19 stations with less, which is a very satisfactory position.

Regarding the position at the Water Works in the centre of the city, the mean monthly deposit is 24·12 tons per square mile. In this case there are 35 stations giving figures in excess of this figure and 85 stations giving lower figures, but of course a number of the latter are purely suburban areas.

The average of the mean monthly deposits for all stations is about 20·2 tons per square mile, the highest being 45·7 and the lowest about 5·4 tons per square mile, so that the air in the centre of Bristol would still appear to occupy a position midway between the cleanest and the most polluted.

There is, however, very considerable room for improvement in our air supply. When we stop to think that we breathe in a quantity of air four times greater in weight than the food and drink we consume every day, it does seem to be extremely desirable that, besides the attention given to protecting our food and water supplies from contamination, the necessity of a clean air supply should be realised. Millions of tons of smoke are emitted into the atmosphere every year and only by the use of smokeless fuels, coke, gas and electricity can this smoke barrage be overcome, resulting in a cleaner and purer air supply.

YEAR 1937.

Composition of solids collected in deposit gauge at Zoological Gardens, Clifton, in tons per square mile.

Table 40.

Month	Rainfall in inches	Total Solid matter (suspended and dissolved)	Insoluble solid matter			Loss on Ignition	Mineral matter (ash)	Sulphate (as SO ₃)	Chlorine (Cl.)	Ammonia (NH ₃)	Lime (CaO)
			Tar	Carbonace- ous matter other than tar	Mineral matter (ash)						
January ...	4.53	13.52	0.16	1.40	2.17	3.98	5.81	2.20	1.48	0.09	0.85
February ...	4.99	9.17	0.16	1.48	1.85	2.13	3.55	1.36	0.85	0.06	0.58
March ...	2.90	13.55	0.11	2.21	4.46	3.20	3.57	1.33	0.95	0.08	0.99
April ...	2.66	9.97	0.04	1.70	2.03	2.93	3.27	1.13	0.69	0.06	0.89
May ...	2.06	11.16	0.10	2.02	3.65	1.86	3.53	0.79	0.33	0.07	0.64
June ...	1.75	10.13	0.17	1.63	2.61	1.74	3.98	1.19	0.35	0.02	1.48
July ...	4.29	9.87	0.12	0.95	3.25	1.82	3.73	1.12	1.03	0.07	1.22
August ...	0.73	10.16	0.08	0.61	4.13	1.34	4.00	1.37	0.19	0.003	0.89
September ...	1.88	10.15	0.11	1.75	3.02	0.16	5.11	1.19	0.43	0.11	0.96
October ...	3.05	18.70	0.21	2.46	2.50	4.47	9.06	1.91	0.79	0.11	1.00
November ...	1.76	9.53	0.26	1.91	2.80	2.26	2.30	1.50	0.61	0.12	0.80
December ...	2.38	7.53	0.18	1.16	1.60	1.76	2.33	1.17	0.68	0.12	0.76
Totals for the year 1937	32.98	133.44	1.70	19.28	34.07	27.65	50.74	16.26	8.38	0.913	11.06
Mean monthly deposit ...	2.75	11.12	0.14	1.61	2.84	2.30	4.23	1.36	0.70	0.076	0.92

YEAR 1937.

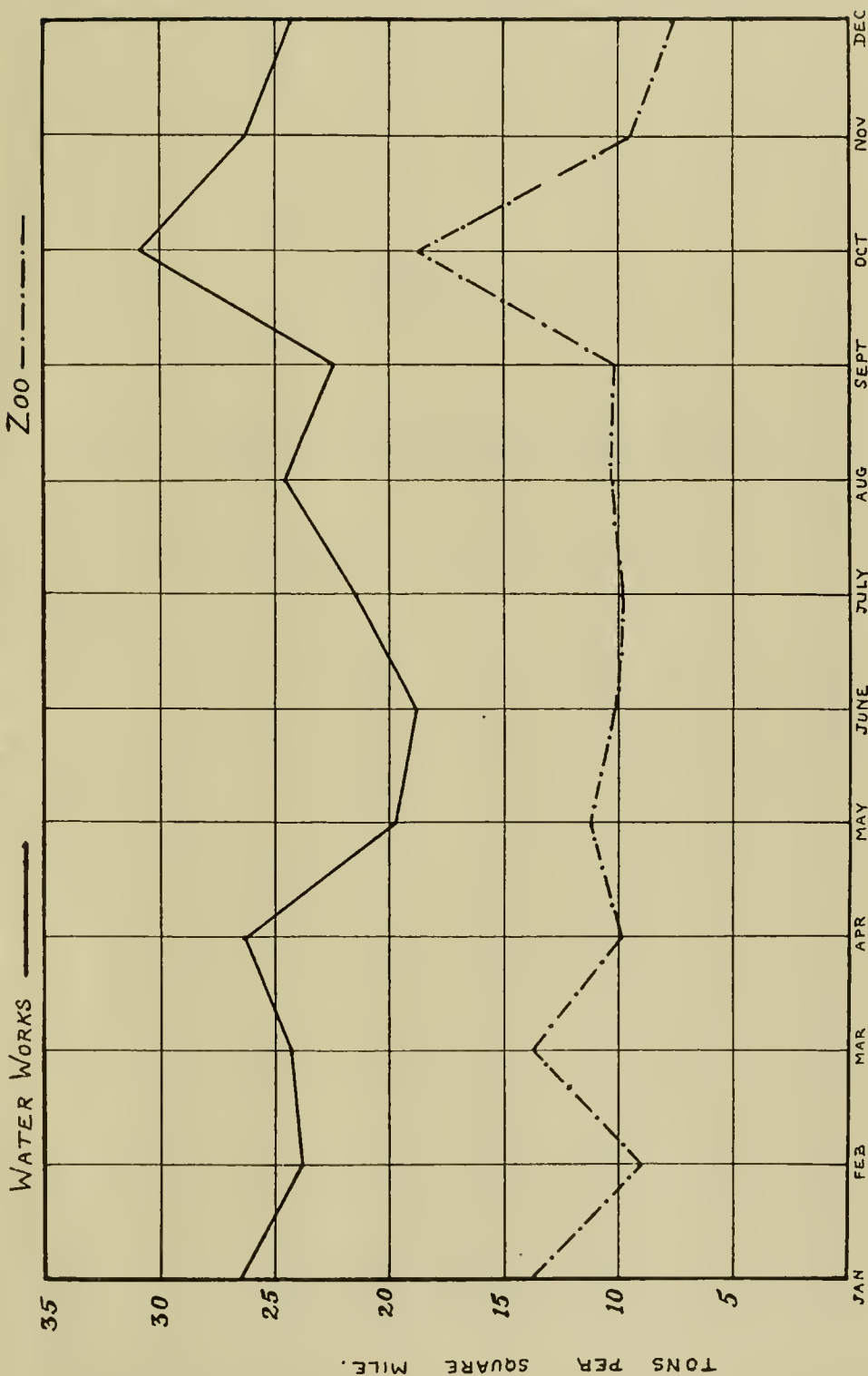
Composition of solids collected in deposit gauge at Bristol Water Works building, Marsh Street, in tons per square mile.

Table 41.

Month	Rainfall in inches	Total Solid matter (suspended and dissolved)	Insoluble solid matter			Loss on Ignition	Mineral matter (ash)	Sulphate (as SO ₃)	Chlorine (Cl.)	Ammonia (NH ₃)	Lime (CaO)
			Tar	Carbonace- ous matter other than tar	Mineral matter (ash)						
January ...	4.33	26.46	0.30	5.78	8.38	3.03	8.97	2.85	1.91	0.09	1.63
February ...	4.86	23.39	0.24	6.46	7.32	3.33	6.54	2.94	1.25	0.15	1.60
March ...	3.29	24.44	0.37	0.60	12.81	3.63	7.03	2.06	1.58	0.12	1.73
April ...	2.49	26.46	0.18	6.57	10.58	2.42	6.71	2.25	1.00	0.10	1.43
May ...	1.93	19.76	0.15	2.91	8.37	2.46	5.87	1.85	0.49	0.08	1.40
June ...	1.73	18.82	0.25	3.48	6.27	2.54	6.23	1.60	0.53	0.03	2.22
July ...	3.98	21.29	0.18	1.91	10.95	3.27	4.98	1.96	1.88	0.09	2.58
August ...	1.69	24.55	0.16	7.59	7.29	2.07	7.44	2.08	0.48	0.07	2.30
September ...	1.71	22.48	0.25	5.95	8.30	0.24	7.74	1.80	0.66	0.04	1.67
October ...	3.17	30.75	0.57	5.00	11.55	4.11	9.52	0.32	1.54	0.11	2.07
November ...	1.61	26.27	0.43	6.20	13.24	2.98	3.42	2.71	0.93	0.11	1.88
December ...	2.13	24.29	0.36	5.01	7.19	4.76	6.97	2.55	1.39	0.12	1.78
Totals for the year 1937	32.92	289.46	3.44	57.46	112.25	34.84	81.47	24.97	13.64	1.11	22.29
Mean Monthly deposit ...	2.74	24.12	0.29	4.79	9.35	2.90	6.79	2.08	1.14	0.09	1.86

ATMOSPHERIC POLLUTION 1937.

TOTAL SOLID MATTER (SUSPENDED AND DISSOLVED)



1937

REPORT
OF THE
PORT MEDICAL OFFICER OF HEALTH

R. H. Parry, M.D., M.R.C.P. Lond., D.P.H.

Bristol Port Sanitary Authority.

BRISTOL PORT HEALTH COMMITTEE.*Chairman*

ALDERMAN E. T. COZENS, J.P.

ALDERMAN H. J. MAGGS, J.P.

ALDERMAN J. J. MILTON, J.P.

COUNCILLOR G. A. W. ALLAN

COUNCILLOR R. N. HARRISON

COUNCILLOR T. JEFFERIS

COUNCILLOR J. OWEN, J.P.

COUNCILLOR V. J. ROBINSON

COUNCILLOR SIR LIONEL

GOODENOUGH TAYLOR, J.P.

PORT SANITARY STAFF.**Port Medical Officer of Health*

R. H. PARRY, M.D., M.R.C.P. (Lond.), D.P.H.

**Deputy Port Medical Officer of Health*

I. G. DAVIES, M.B., M.R.C.P. (Lond.), D.P.H.

**Assistant Port Medical Officers*

LLYWELYN ROBERTS, M.D., D.P.H. (to 30.11.37).

F. W. BUNTING, M.B., Ch.B., D.P.H. (from 1.1.38).

R. J. I. BELL, M.R.C.S., L.R.C.P., D.P.H.

D. T. RICHARDS, M.R.C.S., L.R.C.P., D.P.H.

*Inspectors***Chief Inspector, J. A. ROBINSON, 1.2.*

E. H. SCORRER, 1.2 (to 13.5.37). C. W. GOULD, 1.2.3.

T. E. HOWICK, 1.2.4. I. E. DAVIES, 1.2.3.

Assistant Port Officers

C. A. SAMPSON

W. T. BOWEN, 3.

*Rat Catchers***C. H. RYMAN***F. PEACOCK***C. SCORRER**E. R. POOLE*

1. Certificated Sanitary Inspector.
2. Certificated Meat and Food Inspector.
3. Master Mariners' Certificate.
4. Liverpool University Cert. San. Science.

** Also engaged in the city.***INSPECTION OF ALIENS.***Supervising Medical Inspector, R. H. PARRY.**Medical Inspectors*

I. G. DAVIES

F. W. BUNTING

R. J. I. BELL

D. T. RICHARDS

REPORT ON THE WORK OF THE PORT HEALTH AUTHORITY.

BY

I. G. DAVIES, M.B., M.R.C.P. (Lond.), D.P.H.,
Deputy Medical Officer of Health.

As in previous years this Report is prepared on the lines indicated in a memorandum issued by the Ministry of Health to Port Health Authorities (Memorandum 204/S.A.)

Articles 17 (5) of the Sanitary Officers (Outside London) Regulations, 1935, lays upon the medical officer of health the duty of making an annual report "on the sanitary circumstances, the sanitary administration and the vital statistics of the district containing, in addition to any other matters upon which he may consider it desirable to report, such information as may from time to time be required by the Minister." Article 27 (18) imposes a similar duty upon the sanitary inspector to report to the medical officer of health.

Certain permanent arrangements which have been fully described in previous reports have not been repeated in this report.

For many details referred to in the tables given in this report as well as for a year of smooth working, we are indebted to the co-operation of the officers of the Port of Bristol Authority (and particularly the haven master and his pilots), and H.M. immigration officers. Throughout the year also, we have had unfailing courtesy and help in every respect from H.M. customs officers. In addition, a most helpful co-operation has been established between the port health department and the surveyors department of the Board of Trade concerning the hygiene of ships. Further reference is made to this on page 17. To all these our grateful thanks are given.

The Port of Bristol comprises the Avonmouth docks, the City docks, and the Portishead docks, which have a total water area of 188 acres, and a dock quayage of 37,220 feet. The Corporation of Bristol are the owners of the entire dock system, the administration of which is vested in a committee, the Port of Bristol Authority.

I.—Amount of Shipping entering the Port during the year 1937.

(AVONMOUTH, PORTISHEAD AND CITY DOCKS)

Table A.

	Number *	Tonnage *	Number inspected		Number reported to be defec- tive	Number of vessels on which defects were remedied	Number of vessels reported as having or having had during the voyage infectious disease on board
			By the medical officer of health	By the sanitary in- specter			
Foreign { Steamers †Motor Sailing ... Fishing ...	1,102	2,795,475	218	953	200	200	20
	—	—	25	149	3	3	—
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—
Total Foreign ...	1,102	2,795,475	243	1,102	203	203	20
Coast- wise { Steamers †Motor Sailing Fishing	7,131	975,567	2	828	145	145	1
	—	—	—	302	—	—	—
	—	—	—	68	1	1	—
	—	—	—	13	—	—	—
Total Coastwise ...	7,131	975,567	2	1,211	146	146	1
Total foreign and coastwise ...	8,233	3,771,042	245	2,313	349	349	21**

† Includes mechanically propelled vessels other than steamers.

* Figures supplied by Port Authority. The foreign tonnage includes vessels entering from a coastwise port to load for a foreign port.

** Excluding vessels having venereal disease on board.

II.—Character of Trade of Port.

Table B.

(a) Passenger Traffic during 1937.

No. of passengers		1st Class	2nd Class	3rd Class	Trans- migrants	Total
Inwards	Aliens	194	—	—	—	194
	British	2,206	—	—	—	2,206
Outwards	Aliens	101	—	—	—	101
	British	2,151	—	—	—	2,151

The foreign ports from which passengers principally arrived were :—

Kingston (Jamaica), Trinidad, U.S.A., Canadian and Scandinavian ports, Amsterdam.

(b) *Cargo Traffic.*

PRINCIPAL IMPORTS

Commodities							
Grain	...	...	...	...	Tons	—	956,320
Oilseeds	...	...	...	...	"	—	77,172
Feeding stuffs for animals	...	...	...	...	"	—	150,643
Cereal products for human consumption	...	...	...	...	"	—	27,210
Fruit :							
Bananas	...	..	...	Bunches	...	6,129,319	Tons 85,194
Oranges and lemons	...	...	...	Cases	...	209,346	" 8,634
Other green fruit	...	..	...	Tons	...	—	3,282
Canned	...	...	...	...	"	—	4,821
Dried	...	...	...	...	"	—	3,922
Metals and ores :							
Brass	...	...	...	...	"	—	149
Copper	...	...	...	...	"	—	35,065
Iron	...	...	...	...	"	—	22,002
Lead	...	...	...	...	"	—	4,289
Spelter	...	...	...	...	"	—	2,271
Zinc concentrates	...	...	...	...	"	—	87,398
Paper	...	...	...	...	"	—	62,247
Petroleum...	..	...	...	...	"	—	906,831
Provisions :							
Bacon	...	...	...	...	"	—	671
Butter	...	...	...	...	"	—	12,067
Cheese	...	...	...	...	"	—	10,690
Lard	...	...	...	...	"	—	1,738
Frozen meat	...	...	...	...	"	—	12,964
Sugar :							
Refined	...	...	...	...	"	—	4,696
Unrefined	...	...	...	...	"	—	7,932
Glucose	...	...	...	...	"	—	736
Molasses	...	...	...	...	"	—	22,191
Tobacco	...	...	...	...	"	—	36,847
Wine	...	...	...	Pipes	...	8,273	Tons 4,964
"	...	...	...	Dozens	...	6,880	" 172
Spirits	...	...	...	Pipes	...	127	" 76
"	...	...	...	Dozens	...	38,450	" 769
Wood and timber	...	...	...	Tons	...	—	167,047
Wood pulp	...	...	...	...	"	—	102,742
All other goods	...	...	...	...	"	—	163,661
Total Foreign Imports						...	2,987,413

From the above figures it is obvious that the Port of Bristol maintains its position as a port receiving particularly large quantities of the grain, the tobacco and the bananas received into the United Kingdom.

PRINCIPAL EXPORTS

Commodities						Tons	
Chemicals :							
Saltcake	...	...	...	...	...	8,600	
Other kinds	...	...	...	...	...	3,069	
Clay	...	...	...	...	...	5,382	
Coke	...	...	...	...	...	1,692	
Earths	...	...	...	...	...	2,017	
Iron	...	...	...	...	...	2,439	
Paper	...	...	...	...	...	335	
Strontia	...	...	...	...	...	2,876	
All other goods	...	...	...	...	...	46,180	
Total Foreign Exports						...	72,590

(c) *Foreign ports from which vessels arrive.*

The Port of Bristol trades with all parts of the world and the list printed in 1934 is typical of the foreign ports from which vessels arrive in any year.

III.—Water Supply.

(1) *Source of supply for (a) the port, (b) shipping.*

The water used in the port and by ships in the docks is supplied by the Bristol Water Works Company. Hydrants are provided on the quaysides.

Samples of ships' water are taken from time to time. Four samples were taken during 1937. Eight water tanks were required by the port inspectors to be cleansed.

(2) *Hydrants and hosepipes.*

As a precaution against contamination, water is allowed to run free for a few minutes before it is permitted to enter ships' storage tanks. The hosepipes are also periodically examined and cleansed by the water works staff.

(3) *No. of water boats and their sanitary condition.*

There are no water boats in use at Avonmouth or Portishead.

One water boat is in use at Bristol docks. This vessel is inspected periodically by the port sanitary inspector, and is cleansed and cement washed when necessary.

IV.—Port Sanitary Regulations, 1933.

(1) *Arrangements for dealing with declarations of health.*

(2) *Boarding of vessels on arrival.*

(3) *Notification to the authority of inward vessels requiring special attention.*

The above headings were dealt with in detail in the annual report for 1933. These arrangements, together with the arrangements made under article 6 of the Port Sanitary Regulations requiring notification by wireless message of any unusual circumstances on board by the master before arrival at the port, have all worked satisfactorily throughout the year under review. The latter arrangements, concerning the sending of wireless messages, were given in the report for 1934.

(4) *Mooring Stations.*

These remain as detailed in my report for 1933.

(5) *Particulars of any standing exemptions from the provisions of article 14.*

At this Port every ship from foreign is met at the lock gates by a port sanitary inspector. The medical officer on duty has already been notified of the expected arrival of the ship and of the necessity for medical inspection. In every case therefore he is awaiting the arrival of the ship and in this way no delay is caused either to the ship or to its personnel.

No standing exemptions under article 14 (1) have been issued.

(6) *Experience of working of article 16.*

(7) *What, if any, arrangements have been made for :—*

- (a) *Premises and waiting rooms for medical examinations.*
- (b) *Cleansing and disinfection of ships, persons and clothing and other articles.*
- (c) *Premises for the temporary accommodation of persons for whom such accommodation is required for the purposes of the regulations.*
- (d) *Hospital accommodation available for plague, cholera, yellow fever, smallpox, and other infectious diseases.*
- (e) *Ambulance transport.*
- (f) *Supervision of contacts.*

These matters were fully dealt with in the report for 1933.

(8) and (9) *Arrangements for (a) bacteriological or pathological examination of rats for plague and (b) for other similar examinations.*

All bacteriological and pathological examinations for port work are carried out at the laboratories of the department of preventive medicine of the University at Canynge Hall. This scheme is working admirably.

Routine examinations of rats for rodent plague are carried out and the following figures give the results of such examinations.

During the year under review, 479 rats were caught on ships and 3,939 rats and 390 mice were recovered from sheds and quays at the docks.

Of these, 796 were examined for plague, 289 from ships at the ports and 507 from sheds and quays at the docks.

(10) *Arrangements for the diagnosis and treatment of venereal disease amongst sailors under international arrangements.*

Inquiry is always made of the responsible officers on all ships concerning the possibility of venereal disease amongst the crew and full directions are given to the crew as to the means of obtaining treatment.

The following particulars relate to seamen treated at the municipal clinic during the year :—

1936		1937	DIAGNOSIS.			
			Syph.	Soft Sore	Gon.	Non-Ven.
	CASES					
234	Total	209	81	3	85	40
202	New cases	169	54	3	72	40
	ATTENDANCES					
917	Total	756	369	7	293	87
594	New cases	424	132	7	198	87
	INPATIENTS					
13	Total	5	2	—	3	—
13	New cases	4	1	—	3	—
	INPATIENT DAYS—					
387	Total	148	53	—	95	—
387	New cases	112	17	—	95	—

Table C.

Cases of infectious sickness landed* from vessels.

Disease	No. of cases during 1937		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
<i>Infectious diseases, including :</i>				
Scarlet fever	—	1	1	0·0
Malaria	1	3	4	5·4
Pneumonia	—	2	2	1·0
Chicken pox	—	3	1	1·4
Pulmonary tuberculosis...	1	1	2	5·0
Tuberculosis, other causes ...	—	1	1	0·2
Venereal disease	—	7	6	33·4

Other diseases not included in Table C above landed* from vessels.

Disease	No. of cases during 1937		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
Cancer	—	1	1	0·4
Rheumatism	—	1	1	3·8
Diseases of nervous system ...	—	4	4	8·6
Diseases of circulatory system ...	—	4	4	3·2
Diseases of respiratory system ...	2	7	7	10·0
Diseases of digestive system ...	—	17	14	19·0
Diseases of genito urinary system	1	3	4	3·2
Diseases of skin and cellular tissue	—	8	7	10·6
Diseases of bones and organs locomotion	—	6	6	2·8
Ill-defined	—	27	22	18·6

* Includes only cases requiring medical attention, but all were not removed from ships to hospital.

Table D.

Cases of infectious sickness on vessels during voyage but disposed of prior to arrival.

Disease	No. of cases during 1937		No. of vessels concerned	Average no. of cases during previous 5 years
	Passengers	Crew		
<i>Infectious diseases, including :</i>				
Typhoid	—	1	1	0·8
Malaria	—	8	3	3·2
Dysentery... ..	—	1	1	3·6
Chicken pox	—	4	2	1·2
Pulmonary tuberculosis...	—	1	1	1·0
Pneumonia	—	1	1	0·4
Venereal disease	—	2	2	3·0

Other diseases not included in Table D above on vessels during voyage but disposed of prior to arrival.

Disease	No. of cases during 1937		No. of vessels concerned	Average no. of cases during previous 5 years
	Passengers	Crew		
Diseases of nervous system ...	—	1	1	1·2
„ „ digestive system ...	—	4	4	5·0
„ „ genito urinary system...	—	1	1	0·6
„ „ skin and cellular tissue	—	2	2	1·4
Traumatism... ..	—	1	1	3·0
Ill-defined causes	—	2	2	6·4

V.—Measures against Rodents.

- (1) *Steps taken for detection of rodent plague (a) in ships in the port, (b) on quays, wharves, warehouses, etc.*
- (2) *Measures taken to prevent the passage of rats between ships and the shore.*
- (3) *Methods of deratisation of (a) ships (b) premises in the vicinity of the docks and quays.*

Such steps were given in detail in the reports for 1933 and 1934.

- (4) *Measures taken for the detection of rat prevalence in ships and on shore.*
- (5) *Rat-proofing.*

These matters continue as detailed in previous reports, particularly those for 1933 and 1934.

Sixteen deratisation and 115 deratisation exemption certificates were issued during the year 1937. Deratisation was carried out as follows :—

5 vessels by sulphur.

11 vessels by cyanide.

If there is any evidence of considerable infestation deratisation by trapping is not undertaken as it is considered that it cannot be efficiently carried out with certainty.

Two hundred and ninety-three rats were recovered from these vessels.

The following table deals with the certificates of deratisation and exemption issued during the last five years.

Rat infestation of ships has been considerably reduced during the last five years. The great problem of infestation of shore premises still remains and at present in many cases is of greater moment than infestation of ships. Disinfestation of shore premises and docks has not kept pace with that of ships.

Further improvement in ships will undoubtedly occur.

Year	1933	1934	1935	1936	1937
Ships fumigated	26	29	19	19	16
Rats found on these ships :	864	739	623	306	293
Average number of rats per ship	33.2	25.5	32.8	16.1	18.3
But it is relevant to note the greatest number of rats on a single ship was	201	234	167	84	99
Number of exemption certifi- cates issued	113	117	126	127	115
Rats found on these ships by trapping previous to issuing exemption certificates ...	1	19	7	10	3

Table G.
Measures of rat destruction on plague "infected" or "suspected" vessels or vessels from plague infected ports arriving in the Port during the year.

Total number of such vessels arriving.	Number of such vessels fumigated by SO ₂	Number of rats killed.	Number of such vessels fumigated by HCN.	Number of rats killed.	Number of such vessels on which trapping, poisoning, etc., were employed.	Number of rats killed.	Number of such vessels on which measures of rat destruction were not carried out.
1.	2.	3.	4.	5.	6.	7.	8.
59	1	—	1	3	42	7	15*

* These ships were all examined for rat indications, but no measures were taken, either because there was no evidence of rats, or because of very short stay in port.

Table H.
Deratisation certificates and deratisation exemption certificates issued during the year.

Net Tonnage.	No. of ships.	No. of deratisation certificates issued.						No. of deratisation exemption certificates issued.	Total certificates issued.
		After fumigation with			After trapping, poisoning, etc.	Total.			
		H.C.N. and Sulphur.							
		H.C.N.	Sulphur						
1.	2.	3.	4.	5.	6.	7.	8.	9.	
Ships up to 300 tons ...	11	—	—	—	—	—	11	11	
„ from 301 tons to 1,000 tons	32	—	—	—	—	—	32	32	
„ from 1,001 „ 3,000 „	27	2	5	—	—	7	20	27	
„ from 3,001 „ 10,000 „	61	9	—	—	—	9	52	61	
„ over 10,000 „ ...	—	—	—	—	—	—	—	—	
TOTALS ...	131	11	5	—	—	16	115	131	

VI.—Hygiene of crews' spaces.

Table J.—Classification of nuisances.

Nationality of vessel.	Number inspected during the year.	Defects of original construction.	Structural defects through wear and tear	Dirt, vermin and other conditions prejudicial to health.
British ...	1,787	7	109	246
Other nations	556	—	41	67
Totals ...	2,343	7	150	313

During the year a working arrangement was made with the surveyors of the Board of Trade concerning a reciprocal system of reporting defects in the hygiene of ships. This will enable the best method of remedying these defects to be found. As the result of experience of examination of ships, many defects are found which are not capable of remedy without some reconstruction. For this the co-operation of the Board of Trade is necessary.

Arrangements have been made whereby such defects are reported to the surveyors of the Board for their advice and remedy. Such defects are many, e.g., ventilation of crews' spaces is defective because of unsatisfactory situation of ventilation cowls; methods of lighting and heating may be defective; dampness in crews' quarters; defects in the situation and construction of water tanks.

For much helpful advice in regard to these matters the department is indebted to Mr. Gould, port inspector for Bristol docks.

VII.—Food Inspection.

(1) *Public Health (Imported Food) Regulations, 1925.*

Public Health (Imported Food) Amendment Regulations, 1933.

Resort to legal proceedings was not necessary during the year.

Quantity of food imported and dealt with :—

Fresh, frozen or canned meat, etc.

Frozen beef	...	...	19,052	qrs.
„ mutton and lamb	...	...	637,598	carcases.
„ pork	...	...	39,958	„
„ pork legs	...	...	356	bags
„ sundries	...	...	8,992	packages.
Cured or salted beef and pork	...	...	25	tons
Bacon and hams	...	...	671	„
Canned meat	...	...	524	„
Canned fish	...	...	300	„

Fresh, dried and canned fruit, etc.

Bananas	...	...	85,194	„
Green fruit	...	...	11,916	„
Dried fruit	...	...	3,922	„
Vegetables—raw	...	...	2,805	„
„ canned	...	...	1,286	„
Vegetables in brine	...	...	823	„
Canned fruit	...	...	4,821	„

Other foods :

Butter, cheese and lard	...	...	24,495	„
Grain	...	...	956,320	„
Cereal products for human consumption	...	...	27,210	„
Feeding stuffs for animals	...	...	150,643	„

Imported animals dead or slaughtered:—

Animals landed dead	...	...	...	...	3
Slaughtered in lairs	...	...	...	...	6

Unsound food destroyed or otherwise dealt with so as not to be used for human food.

<i>Fresh or frozen meat, etc.</i>					Tons.	cwts.	qrs.	lbs.
Beef	...	...	...	...	—	11	—	12
Mutton and lamb	...	...	...	...	1	1	—	3
Pork	...	...	...	...	—	1	1	22
<i>Canned goods.</i>								
	Tins							
Apples	...	50	...	...	—	2	2	1
Apricots	...	39	...	...	—	—	2	4
Beef	...	30	...	...	—	1	1	14
Brawn	...	11	...	...	—	—	2	13
Fruit salad	...	174	...	...	—	1	3	9
Grape fruit	...	90	...	...	—	1	—	9
Hams	...	20	...	...	—	2	—	14½
Loganberries	...	18	...	...	—	—	—	18
Milk (condensed)	...	9	...	...	—	—	—	5½
Peaches	...	65	...	...	—	1	—	5½
Pears	...	112	...	...	—	3	1	10
Pineapples	...	273	...	...	—	3	—	15
Pineapple juice	...	4	...	...	—	—	—	6
Peas	...	6	...	...	—	—	—	6
Soup	...	10	...	...	—	—	—	10
Salmon	...	44	...	...	—	—	1	16
Tomatoes	...	207	...	...	—	3	2	14
Tongues	...	10	...	...	—	—	2	4
Vegetables	...	10	...	...	—	—	—	10
<i>Fruit and vegetables.</i>								
Apples	...	...	...	...	—	3	3	—
Apples (dried)	...	...	...	...	—	—	—	22
Currants	...	...	...	...	—	—	3	—
Grape fruit	...	...	...	...	7	7	2	—
Figs (dried)	...	...	...	...	—	—	1	—
Lemons	...	...	...	...	—	16	—	—
Onions	...	...	...	...	33	13	—	—
Oranges	...	...	...	...	372	3	3	5
Potatoes	...	...	...	...	18	6	—	—
Prunes	...	...	...	...	—	—	—	25
Raisins	...	...	...	...	—	3	1	15
Tomatoes	...	...	...	...	—	—	—	25
<i>Other goods.</i>								
Barley	...	...	...	...	5	7	1	20
Cheese	...	...	...	...	—	6	1	24
Coconut, desiccated	...	...	...	...	1	18	—	—
Flour	...	...	...	...	5	17	2	—
Lard	...	...	...	...	—	4	—	—
Linseed	...	...	...	...	4	2	1	—
Maize	...	...	...	...	21	11	—	26
Oats	...	...	...	...	—	9	2	26
Wheat	...	...	...	...	55	13	1	4
TOTAL					531	1	—	21½

Public Health (Imported Milk) Regulations, 1926.

No milk (other than condensed, evaporated or dried) was imported during the year.

Public Health (Preservatives, etc., in Food) Regulations, 1925 to 1927.

The administration of the Public Health (Preservatives, etc. in Food) Regulations continues to demand attention from the port sanitary staff.

Lead in sardines.

During the year the question of lead in sardines was again considered and a strict standard was put into operation as agreed with the Ministry of Health and other port health authorities. Importers were circulated to the effect that lead was avoidable in sardines with improved methods of preparation and packing. A considerable improvement has been noted with regard to the lead content as shewn by analyses during the year.

Sampling for preservatives.

The following samples were submitted to the public analyst during the year and examined by him for the presence of preservatives :—

Apricots, dried ...	3	Milk block, full cream	1
Apples, evaporated ...	1	Milk sugar	1
Baking powder ...	2	Margarine	1
Cranberries	1	Muscateles	1
Cornflower	1	Meat Galantine ...	1
Cherries, in brine ...	2	Marshmallow cream...	1
Cherries, canned ...	1	Olives, in brine ...	1
Cherries, drained ...	1	Pulp, raspberry ...	6
Cauliflower, in brine	1	Pulp, blackcurrant ...	5
Cocoa	1	Pulp, red currant ...	1
Cocoa butter ...	1	Pulp, strawberry ...	3
Cream, canned ...	2	Pulp, gooseberry ...	1
Corned beef, canned	2	Prawns	1
Cane syrup	1	Pickles, mixed ...	1
Cockles, pickled ...	1	Prunes	1
Figs	2	Pearl barley ...	1
Gherkins	1	Raisins	9
Lard, Dutch	1	Sultanas	7
Milk condensed machine		Sugar	4
skimmed, sweetened	3	Salmon, canned ...	3
Milk, powder, machine		Walnuts	1
skimmed	2	Walnuts, shelled ...	1
Milk powder, full cream	2		—
Milk, evaporated, full			85
cream	1		—

The number of samples found to contain preservative in excess of the regulations in previous years is according to the following table:

1933	1934	1935	1936	1937
6	—	10	5	—

(2) *Public Health (Cleansing of Shellfish) Act 1932.*

Public Health (Shellfish) Regulations 1934.

There are no shellfish beds or layings within the jurisdiction of the Bristol Port Health Authority. The supply of shell fish marketed in Bristol is obtained mainly from the following sources :

Cockles	from	St. Clair, South Wales, and King's Lynn, Norfolk.
Escallops	,,	Brixham, South Devon.
Mussels	,,	Appledore, North Devon ; and St. Clair, South Wales.
Oysters	,,	Whitstable, Pyefleet, and Colemouth, via London, Portugese and American via Liverpool.
Winkles	,,	Appledore, North Devon.
Whelks	,,	King's Lynn, Norfolk.

3) *Samples of food examined by bacteriologist and analyst.*

Article.	Examined for	Result.
Baking powder ...	Soundness	Genuine
Buttermilk powder...	do.	Genuine.
Corned beef, canned	Metals	Tin—·24 grain per lb.
do. ...	do.	Tin—trace.
Cocoa ...	Soundness	Genuine
Cocoa offal ...	do.	Genuine
Cheese ...	Contamination	No contamination
Cornflour ...	Soundness	Genuine
Cherries, canned ...	Metals	Tin—1 grain per lb.
Flour ...	Contamination	Unfit for food.
Herring meat ...	Soundness	Genuine.
Margarine ...	Soundness	Genuine.
Milk Powder, full cream ...	Soundness	Deficient in milk fat of 6·5%.
Milk block, full cream	do.	Genuine.
Milk, evaporated ...	do.	Genuine.
Rice (oil dressed) ...	do.	Genuine.
Rye flour ...	Contamination	No contamination.
Raisins ...	do.	Damaged by contact with chest-nut oil.
Salmon, canned ...	Metals	Metals—nil.
do. ...	do.	Metals—nil.
do. ...	do.	Metals—nil
Sardines ...	do.	Lead—1 part per million.
do. ...	do.	Lead—1 part per million.
do. ...	do.	Lead—nil.
do. ...	do.	Lead—2 parts per million.
do. ...	do.	Lead—5·5 parts per million.
do. ...	do.	Lead—3 parts per million.
do. ...	do.	Lead—5 parts per million.
do. ...	do.	Lead—2 parts per million.
do. ...	do.	Lead—4 parts per million.

MISCELLANY.

Parrots (Prohibition of Import) Regulations, 1930.

One vessel arrived in 1937 with four parrots or budgerigars on board. Their importation was prohibited under the regulations.

Canal Boat Inspection.

No canal boats were in use in the Bristol district during 1937.

Medical inspection of aliens.

During the year 194 aliens landed at Bristol, mostly as first class passengers, in transit or visitors, from the West Indies, and medically presented no difficulties. Those referred for examination are examined on board while the ship is in the locks. Altogether, 74 were inspected by the medical inspector including 47 who were subjected to detailed examination.

Spanish Refugees.

On 21st October, 1937, 13 Spanish refugees were brought to Bristol in a small fishing vessel which had been picked up at sea and taken in tow by the S.S. "Etrib." All these men were examined on arrival by one of the port medical officers and were found to be free from infectious disease.

Typhus.

A case of typhus was notified in Bristol in November, 1937. The case was extremely unusual chiefly in the fact that it was in a man who although working in a mill in the docks had not been on a ship or in any way connected with the crew of a ship. There had been no case of typhus in a ship coming into the port nor had there been illness suspicious of typhus. Serological tests confirmed the diagnosis. The mode of infection formed an interesting epidemiological problem which was fully reported and published in the *Lancet* of 26th February, 1938, by Drs. Gray, Peters and Davies, who investigated the case.

Medical Inspection of Aliens.

Annual return by the medical inspector of aliens for year ended 31st December, 1937.

	Total	Number inspected by the medical inspector	Number subjected to detailed examination by the medical inspector	Certificates Issued					Transmigrants	
				Lunatic idiot or M.D.	Undesirable for medical reasons	Physically incapacitated	Suffering from acute infectious disease	Landing necessary for adequate medical examination	Vermineous	Trachoma favus, etc.
1. (a) Total number of Aliens (excluding Alien Seamen) landing at the Port	194	74	47	..	..	..	..	..	..	..
(b) Aliens refused permission to land by Immigration Officer ..	20	..	13	..	..	..	..	..	..	..
(c) Transmigrants ..	..	..	..	..	..	..	..	..	..	..
2. Total Aliens arriving at the Port	214	74	60	..	..	..	..	..	..	..
3. (a) Total number of vessels carrying alien passengers ..	..	..	93	..	..	..	..	..	..	..
(b) Number of such vessels dealt with by the Medical Inspector ..	..	..	44	..	..	..	..	..	..	..

TABLE A.

Analysis of Aliens landing (see 1 (a)).		Total
Residents returning ..	..	6
In Transit ..	..	60
Visitors ..	..	69
Business ..	..	2
Diplomatic ..	..	4
Seamen ..	..	35
Contract Seamen ..	..	11
Ministry of Labour Permit (M.L.) :—	..	..
(a) Males ..	..	..
(b) Females ..	..	2
(c) Children ..	..	..
Aliens coming to settle not holding M.L. permits :—	..	..
(a) Males ..	..	2
(b) Females ..	..	2
(c) Children ..	..	1
Total ..	..	194

TABLE B.

Classification of Aliens referred to the Medical Inspector by the Immigration Officer for detailed examination—		Examined	No. of Certificates issued.
(i) holding Ministry of Labour permits ..	..	2	..
(ii) intending to remain in the country over 3 months ..	..	..	..
(iii) intending to make their home in this country ..	..	1	..
(iv) students coming for educational purposes ..	..	9	..
(v) in regard to whom there is any mention of health as a reason for their visit ..	..	..	..
(vi) who appear to the I.O. (a) not to be in robust health ; (b) to be mentally or physically abnormal or sub-normal ; (c) to be dirty in their person or (d) are selected for special reasons ..	..	(d) 13	..
(vii) seamen travelling as passengers ..	..	34	..
Total ..	..	59	..

1937

REPORT
OF THE
SCHOOL MEDICAL OFFICER

R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

Education Department, Guildhall, Bristol.

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CRISSIE SHORT, M.B., Ch.B., D.P.H.

C. D. PRESTON, M.B., Ch.B., D.P.H. (resig. 31/10/37).

L. ROBERTS, M.D., B.S., D.P.H. (trans. to Health Committee 1/4/37).

F. W. BUNTING, M.B., Ch.B., D.P.H. (apptd. 1/4/37).

R. J. IRVING BELL, M.R.C.S., L.R.C.P., D.P.H. (apptd. 1/10/37)

D. T. RICHARDS, M.R.C.S., L.R.C.P., D.P.H. (apptd. 1/11/37).

Assistant School Medical Officer (Part-time).

S. B. GREEN, M.B., D.P.H.

Specialist Medical Officers.

Cardio-rheumatic Section - C. BRUCE PERRY, M.D., Ch.B., M.R.C.P.

Ear, Nose and Throat Section G. R. SCARFF, M.B., F.R.C.S. (E.).

Ophthalmic Section - R. R. GARDEN, M.A., M.B., D.O.M.S., D.P.H.

Orthopaedic Section - HUBERT CHITTY, M.S., F.R.C.S.

K. H. PRIDIE, M.B., B.S., F.R.C.S.

X-ray Section - F. G. BERGIN, M.R.C.S., L.R.C.P.

Child Guidance Clinic.

Director - R. F. BARBOUR, M.A., M.R.C.P., D.P.M.

Psychologist - RUTH GRIFFITHS, D.Sc.

Social Worker - HILDA HOWARTH, M.A.

Speech Therapist - DORIS WILSON, M.S.S.T.

Dental Surgeons (Whole-time).

W. H. B. STRIDE, L.D.S. (*Supervisory Dental Surgeon*).

A. LETHABY MORGAN, L.D.S. MARION BENTZ, L.D.S.

MURIEL S. COSH, B.D.S. A. H. V. WILLIAMS, L.D.S. (apptd. 4/5/36).

H. HAZELL, L.D.S. (Jointly with the Health Committee).

D. REES, L.D.S. " " " "

School Nurses.

L. ELKINS, *Principal Sister*.

M. BASSETT V. P. BOWLER M. BRADLEY

P. M. COATES E. M. CORDING H. L. CROCKER

M. S. DALL A. G. DAVIES B. M. DAVIS (apptd. 24/5/37)

M. J. DEVLIN E. S. FISHER B. K. FOUNTAIN (apptd. 18/10/37)

F. E. FRY W. JOHNSON D. S. M. LEIGHTON

M. MORGAN P. PICTON E. M. R. REYNOLDS (aptd. 20/9/37)

A. ROBINS A. W. SUTTON D. R. WILLIAMS (res. 1/5/37)

(res. 31/8/37)

H. V. WILSON

Masseuses and Remedial Gymnasts.

M. ROSSI B. D. ROBERTSON C. V. ROBERTSON

Clinic Assistants.

M. BEES L. R. HOLLOWAY J. MOSS

Dental Attendants.

E. M. BATTEN G. M. NEEDS P. K. DAVIES G. A. MASSEY

M. STEPHENS M. O. COATES L. G. BOULTON

Clerical Staff.

A. C. J. GREGORY, *Chief Clerk*.

J. H. MIDDLETON and H. F. KERSLAKE, *Senior Clerks*.

W. H. HAUSER IVY M. PORTER A. W. R. MULLANY

ETHEL F. WEAVER EMILY F. JONES LETTY R. POW

S. J. TUCKER R. G. COX G. G. LAING

L. JOAN HILES J. REX J. WILSON

PEGGY D. BLANDFORD.

CITY AND COUNTY OF BRISTOL

Population (estimated Mid. 1937)...	415,100
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Elementary Schools :—

Number of Schools	105
Number of Departments	193
Average Number on Registers	51,486
Average attendance	...	...	45,737

SUMMARY OF WORK DONE DURING 1937.

School Medical Officers :—

No. of Visits to Elementary Schools	-	-	749
No. of Children of Code Groups examined in Schools			16,012
No. of Re-examinations in Schools	-	-	6,788
No. of Visits to Secondary Schools	-	-	86
No. of Children examined	-	-	1,862

Dental Surgeons :—

No. of Children examined	-	-	34,757
No. of Children treated	-	-	14,963

School Nurses :—

Cleanliness Survey.

No. of Visits to Schools	-	-	1,181
No. of Examinations of Children	-	-	81,640
No. of Homes Visited	-	-	13,263

Preparation for Medical Inspection.

No. of Visits to Schools	-	-	817
No. of Children prepared	-	-	21,009

SCHOOL CLINICS.

Total Attendances - - - 218,265

	<i>No. of Attendances.</i>	<i>Work.</i>
Central Health Clinic.	45,083	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, zinc ionisation, dental treatment, refraction work, X-ray treatment and treatment of scabies cases.
Bedminster Health Centre.	51,823	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
Speedwell Health Centre.	41,747	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
Portway Clinic -	22,094	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
North Bristol Clinic	26,117	Inspection clinic work, treatment of minor ailments, dental treatment and refraction work.
Hotwells Clinic (closed July, 1937)	479	Inspection clinic work.
Redcross St. Spec. School Clinic.	18,110	Inspection clinic work, treatment of minor ailments, massage, electrical treatment and remedial exercises.
Tuberculosis Dispensaries.	1,317	Tuberculosis cases.
Cardio-rheumatic Clinic.	1,202	Cases of heart diseases and acute rheumatic infection.
Artificial Light Clinic.	1,244	Cases of anaemia and debility.
Sussex St. Dental Clinic.	3,570	Dental treatment.
(Transferred to Central Health Clinic in July).		
Brunswick Square Dental Clinic.	1,514	Dental treatment.
(Transferred to Central Health Clinic in July).		
Child Guidance Clinic -	1,574	
Speech Clinic -	1,596	
Orthoptic Clinic -	795	

REPORT OF THE SCHOOL MEDICAL OFFICER.

This report is divided into twenty-one parts as follows :—

- I. Staff.
- II. Co-ordination of Health Services.
- III. Hygiene of School Premises.
- IV. Medical Inspection.
- V. Findings of Medical Inspection.
- VI. Following up.
- VII. Treatment.
- VIII. Infectious Disease.
- IX. Open Air Education.
- X. Physical Instruction.
- XI. Provision of Meals.
- XII. Co-operation of Parents.
- XIII. Blind, Deaf, Defective and Epileptic Children.
- XIV. Full-time Courses of Higher Education for Blind, Deaf, Defective and Epileptic Students.
- XV. Nursery Schools and Classes.
- XVI. Secondary Schools.
- XVII. Parents' Payments.
- XVIII. Health Education.
- XIX. Special Inquiries—Nutrition.
- XX. Miscellaneous.
- XXI. Statistical Tables.

I.—STAFF.

During the year, the following changes occurred in the medical staff: Dr. L. Roberts was transferred to the Health Committee on 1st April, and Drs. R. A. Read and C. D. Preston resigned on the 1st and 10th October, 1937 respectively. Dr. F. W. Bunting (1/4/37), Dr. R. J. Irving Bell (1/10/37) and Dr. D. T. Richards (1/11/37) were appointed to fill the vacancies.

Miss D. R. Williams resigned from the Nursing Staff on 1st May and Miss A. W. Sutton on 31st August. Miss B. M. Davis (24/5/37), Miss E. M. R. Reynolds (20/9/37) and Miss B. K. Fountain (18/10/37) were appointed on the permanent staff as from the dates stated.

II.—CO-ORDINATION OF HEALTH SERVICES.

The scheme for co-ordinating the health services has worked smoothly and efficiently during the year.

The Chief Sanitary Inspector renders a periodic report on the sanitation of schools in the Bristol area for the information of the School Medical Officer.

Arrangements exist between the Education and Health Committees whereby children of pre-school age may be referred by the Maternity and Child Welfare Department to school clinics for the treatment of certain defects and diseases. Details of this scheme are given later in the Report in Section VII.

During 1937 the School Medical Officers, who are also Assistant Medical Officers of Health, gave a total of 428 sessions to duties under the Health Committee, as follows :—

Sessions devoted to Health Committee	...	...	181
Sessions devoted to Port work	...	...	53
Sessions devoted to Tuberculosis Dispensary	...		41
Sessions devoted to Maternity and Child Welfare			
work	...	...	153
			<hr/> 428 <hr/>

III.—HYGIENE OF SCHOOL PREMISES.

Any defects discovered in schools by the School Medical Officer or his staff are reported to, and remedied by, the Sites and Buildings Department.

During the year a new school department was opened—Hengrove Lane Temporary Infants' School.

One school was closed—Holy Trinity Infants' School.

IV.—MEDICAL INSPECTION.

(a) Arrangements for Inspection.

Except in the case of five schools which have no suitable accommodation, the routine medical inspection of children is held on the school premises. The Head Teachers co-operate in the work very willingly, and their help is much appreciated.

The schedule of medical inspection approved by the Board is followed.

(b) Groups Inspected.

The three code groups examined are :—

- (a) *Entrants*—children who first entered school within the previous twelve months.
- (b) *Second Age Group*—children between the ages of eight and nine years.
- (c) *Third Age Group*—children who have reached the age of twelve years.

Special cases are brought to the Doctor's notice during his visit to the schools, and re-examination are made of children noted as having defects or ailments at a previous routine inspection.

In addition to the above, children aged fourteen years who are in attendance at Central Schools are now given a routine medical examination.

V.—FINDINGS OF MEDICAL INSPECTION.

A complete medical inspection was made of 15,889 children in the usual three age groups during 1937, and 32,782 were examined because of some special defect. In addition, 123 children (aged 14) were examined who were in attendance at the Central Schools.

(a) Malnutrition.

Of the 16,012 children examined during the year, 1,960 (12·2%) were placed in group C (slightly subnormal), and 56 (0·4%) in group D (bad).

(b) Uncleanliness.

Minor cases of dirty heads are still numerous. Special combs are supplied for the purpose of removing nits.

(c) Minor ailments and diseases of the skin.

Seventy-seven cases coming in this category were discovered on medical inspection, 36 of which required treatment.

(d) Visual defects and external eye disease.

Defective vision was reported in 940 cases, and there were 50 children discovered who suffered from squint. In addition, there were 31 cases of external eye disease but this does not include special cases referred to the School Medical Officer.

(e) Nose and throat defects.

			<i>Requiring treatment.</i>	<i>Observation.</i>
Chronic tonsillitis only	...		241	300
Adenoids only	...	...	36	53
Chronic tonsillitis and adenoids			298	99
Other conditions	...	...	68	41

(f) Ear disease and defective hearing.

			<i>Requiring treatment.</i>	<i>Observation.</i>
Defective hearing	...	...	55	22
Otitis media and other ear disease	...	...	51	23

(g) Dental defects.

In order not to interfere with the scheme of dental inspection, the Medical Officers only report dental defects which they consider require urgent treatment in view of the condition of the child's health. 2,112 such cases were reported, including 406 cases referred to the School Dental Officers.

(h) Orthopaedic and postural defects.

Defects under this heading requiring treatment were 102 in number, while there were 127 which had to be kept under observation. Fourteen cases of rickets were found of which only 3 were sufficiently severe to need orthopaedic treatment.

(i) Heart disease and rheumatism.

The number of children suffering from organic heart disease totalled 124, and 72 had some functional disorder. Fifty-four cases of rheumatism and 2 of chorea were reported.

(j) Tuberculosis.

The following table shows the cases coming under this heading :

			<i>Requiring treatment.</i>	<i>Observation.</i>
Pulmonary definite	...	...	2	2
Pulmonary suspicious		...	12	24
Glands, etc.	...	...	2	4
Other forms	...	...	2	3

(k) Other defects or diseases.

152 cases were found to require treatment and 343 needed observation only.

VI.—FOLLOWING UP.

The procedure detailed in previous reports has been carried out in regard to following up.

SCHOOL NURSES.

The work of the School Nurse is one of the most important parts of the medical service. Her time is divided between the clinics, the schools, and the homes of the children. The following summary gives some idea of the scope and nature of her duties.

(1) Work in School Clinics.

In addition to the general inspection work, each clinic has several special departments in which a variety of specialized forms of treatment has to be carried out under the direction of the doctors in charge of the different branches. The special forms of treatment are used chiefly for chronic ailments of the skin, ear and eye, and the cases dealt with can rarely be treated satisfactorily at home.

The largely increased attendances consequent on the opening of the new health centres as well as the nurses' survey have necessitated additional nurses in the centres to cope with the treatment cases.

(2) Work in Schools.

Some days before the Doctor's visit, children due for examination are weighed, measured and tested as to visual acuity. In this way a definite saving of time is effected, and the Doctor is enabled to devote more time to the individual child. 817 visits were paid to schools in connection with these duties last year.

In the schools attached to the Portway and North Bristol Clinics the nurses' survey was carried out during the whole year. In this survey the nurses in addition to doing the ordinary cleanliness inspection, weigh and measure the children, note the condition of mouth, eyes and ears, watch for any obvious deformity, test the vision and discuss the educational progress with the child's teacher when there is any abnormality. Cases not appearing to be making real progress are referred to the clinic for special medical examination. The nurses are also responsible for following-up the cases in the homes.

Owing to insufficiency of the nursing staff it has only been possible to extend the nurses' survey to a third district. This extension was made in June upon the opening of the Bedminster Health Centre and applies to schools in the area of that centre.

The following particulars show the results in the three areas.

	Portway Area.	North Bristol Area.	Bedminster Area. (1st June to 31st Dec.)	Total
No. of sessions ...	95	149	176	420
Children surveyed ...	4,928	7,200	7,797	19,925
Average no. per session	51·9	48·3	44·3	47·4
Referred to clinic ...	595	481	643	1,719

Of the cases referred to clinic :—

Already under treatment ...	26	—	11	37
Requiring treatment or to be kept under observation ...	369	403	329	1,101
Discharged ...	80	25	17	122
Minor ailments, private doctor or institution ...	12	36	127	175
Failed to attend clinic	108	17	159	284
	595	481	643	1,719

With regard to verminous conditions, skin diseases and general neglect, in the course of 1,181 visits to schools, 81,640 examinations of children were made including 4,127 re-examinations of children found to require attention on a previous occasion.

In this work the nurse and head teacher act in close co-operation, and we are greatly indebted to the teachers for their valuable assistance in this matter.

(3) **Home-visiting.**

In many cases, the parents do not accompany their children to clinic or medical inspection, and large numbers of visits have to be made at the homes for the purpose of interviewing them. Every effort is made in this way to encourage and assist parents in obtaining treatment for ailments discovered in their children. During the year the number of visits was 13,263.

VII.—TREATMENT.

The clinic scheme which was decided upon in connection with the Board of Education's Circular 1444 has been proceeded with and three new clinics have been completed during the year. In these clinics, built by the Health Committee, provision has been made for the work of the School Medical Service and the Maternity and Child Welfare Department to be carried out in the same building. At the Central Health Clinic, Tower Hill, provision has also been made for the Tuberculosis Officers, Orthopaedic Surgeon, Ear, Nose and Throat Surgeon and Eye Specialist, X-Ray work for the whole city, X-ray treatment for ringworm, artificial sunlight and bathing for skin diseases in addition to the usual inspection and minor ailment treatment clinic. The School Medical work formerly carried out at the Central Clinic, 30, Portland Square, was transferred on the 6th September.

The Bedminster Health Centre, Wedmore Vale, has replaced the Bedminster Clinic, Dean Lane, and the transfer took place on the 19th May.

The Speedwell Health Centre, Whitefield Road, has replaced the St. George Clinic, Verrier Road. This centre was opened on the 27th September.

In planning these clinics special provision has been made for the development of the dental treatment scheme. At the Central

Health Clinic four dental surgeries are arranged and the Bedminster and Speedwell Health Centres each has two dental surgeries.

As a result of the opening of the new Health Centres the temporary dental clinics at Sussex Street and at Brunswick Square have been closed, and also the inspection clinic at Hotwells, these activities having been transferred to the Central Health Clinic.

In addition to the three clinics mentioned above, the Portway Joint Clinic and the North Bristol Clinic have continued as before. It is hoped to replace the latter by providing a new building at Monks Park Road in due course, and this with the provision of a clinic in the Brislington district will complete the joint clinic scheme.

All the clinics have been equipped for refraction work and cases are examined and glasses prescribed by the School Medical Officers. Special cases are referred to the Specialist Ophthalmic Surgeon.

The Committee's Aural Surgeon has charge of the Ear, Nose and Throat cases and attends the five clinics. Zinc ionisation for the treatment of chronic middle ear disease is carried out under his supervision at the Central Health Clinic.

The Orthopaedic Clinic at Redcross Street Special School deals with cases from the whole of Bristol. When the arrangements for building the Open-air School at Novers are complete it is proposed to divide the orthopaedic work between that school and the Central Health Clinic. A number of elementary school cases already attend for orthopaedic treatment at the latter.

Cases of acute rheumatic infection in any form and also of non-rheumatic heart disease attend the clinic at the Bristol General Hospital.

The Child Guidance Clinic operates at 1, Argyle Road, St. Paul's.

A Speech Clinic also is held at 1, Argyle Road.

An orthoptic clinic for the treatment of squint was opened at the Bristol Eye Hospital in April 1937, the Hospital equipping the clinic and providing the orthoptist.

Tubercular children now attend the Central Health Clinic.

The total number of attendances at the clinics during the year was 218,265.

(a) Malnutrition.

151 cases of malnutrition were treated at the clinics during the year. The treatment consists chiefly of provision of accessory foods, such as cod-liver oil and malt, etc., though many of these cases are transferred to open air schools.

(b) Uncleanliness.

Severe cases requiring treatment at the clinic are comparatively rare, and it usually suffices to send instructions to the parent as to method of cleansing.

(c) Skin Clinics.

(1) *Scalp Ringworm.* 35 cases of scalp ringworm were dealt with during the year. Four of these were brought forward from 1936, and all were treated at the Committee's clinics.

X-ray Treatment.

Dr. F. Gower Bergin, who is in charge of this department, reports as follows :—

“ We have now moved into the new Clinic. So far we have done very little work there, but the new apparatus should prove of real assistance in the X-ray treatment of Ringworm.

During the whole year only 19 school cases and 2 under 5 years of age were treated, of which there were 4 cases on the books at the end of the present year.”

(2) *Body Ringworm.* During 1937 there were 167 cases of this disease under observation, of which 2 were carried over from the previous year. All of these were treated at the school clinics.

(3) *Impetigo.* The school clinics treated 2,395 cases of impetigo during the year, a rapid cure being effected in all cases.

(4) *Scabies.* The bathing of children suffering from itch was carried out during the year at the Central Clinic on the lines described in previous reports. 158 cases were treated, 333 baths being given.

Minor Ailments.

A very large number of miscellaneous cases was treated at the School Clinics. These include various surgical dressings of a minor character, and also various ailments that do not come under any of the above headings.

(d) **Eye Clinics.**

Mr. R. R. Garden, M.B., Ch.B., D.O.M.S., the Committee's Ophthalmic Surgeon, reports as follows :—

“ During the year, 3,911 refraction cases were completed, the examination and fitting of spectacles having been carried out in most cases at the clinic nearest to the children's homes. This total includes a number of re-examinations, in many of which no change of glasses was required. In 614 of the new cases, spectacles were not prescribed but several of them have been kept under observation since.

During 1937, spectacles were ordered under the Committee's scheme for 2,416 children, while parents made their own arrangements for the examination and provision of glasses in 64 cases. As in previous years, a large proportion of the refraction work has been carried out by Assistant Medical Officers with ophthalmic experience.

The number of cases referred for examination this year shows a considerable increase, this being due among other reasons, to the Nurses' Survey arrangement.

Myopic children are all examined at least once a year, while those with progressive short-sight are seen more frequently. Squint is treated as early as possible after onset and we are indebted to the Maternity and Child Welfare Department for referring a considerable number of children showing this defect under school age. A total of 190 squint cases and 670 observation cases seen originally on previous occasions attended during 1937. Of the new cases 109 were under school age, 9 of these being in attendance at nursery schools and classes.

The treatment of external eye diseases accounted for 11,550 attendances at the clinics during the year.

Orthoptic Treatment.

A large amount of work to prevent deterioration of vision resulting from squint has been carried out in the Committee's Clinics for many years. Successful results have been obtained by equalising the vision and by treating squint in its earliest stages, but there remained a number of cases in which the vision, after improving, tended to deteriorate again and also in which squint persisted even after operation. In view of the possibility that fusion-training might cure or improve the vision in many of these,

a scheme for the provision of this form of treatment was drawn up early in the year.

In April, 1937, the Bristol Eye Hospital equipped and opened an Orthoptic Clinic for the treatment of squint, and the Education Committee made arrangements to send a number of cases to this new department. Four half-day sessions weekly are reserved for Bristol school children, and the following details of attendances made and results obtained during the period 20th April to 31st December have been supplied by Miss F. B. Young, Orthoptist to the Department :—

“Total number of cases examined for the first time	62
Number receiving treatment twice weekly	... 14
Number discharged as cured	... .. 7
Total number of attendances for treatment	... .. 795

During the year one child ceased to attend. Otherwise the attendances have been punctual and regular, except for illness, holidays or appointments at other clinics. The co-operation between the children, parents and the clinic has been satisfactory and helpful. Four of the cases now on treatment, and possibly five, are likely to prove unsatisfactory as far as the cure by orthoptic means is concerned, and a cosmetic operation will probably be required eventually.”

A case is regarded as cured when stereoscopic vision has been established, when the eyes are equal or almost equal in visual acuity, and when there is no squint with or without glasses. In some cases it has been possible to allow the child to discontinue the use of spectacles, except in school and for reading. All cases recorded as cured have been re-examined since discharge, and found to be satisfactory.”

Provision of Spectacles.

The glasses are supplied at contract prices by opticians appointed by the Committee, and when parents cannot pay the amount due at once arrangements are made for instalments which are collected by the Attendance Officers.

Spectacles obtained through School Medical Officer	817
Purchased privately by parents	... .. 1,646
Supplied by Public Assistance Committee	... .. 12
	<hr/> 2,475 <hr/>

In addition to the above, 307 minor repairs were undertaken.

In necessitous cases, the cost is partly or wholly remitted at the discretion of the Committee, after inquiry into the circumstances.

(e) Defects of Nose and Throat.

The number of children found suffering from the above ailments was 2,801, of whom 1,110 received treatment. Operative treatment of enlarged tonsils and adenoids is performed at the various City Hospitals, 517 cases being so treated.

(f) Aural Clinics.

Regular visits are paid to five clinics by the Aural Surgeon, who makes a complete investigation in each case.

Practically all cases of chronic ear disease are now treated at the Committee's clinics. Zinc ionisation of cases with middle ear suppuration is carried out at the Central Health Clinic.

Mr. Gordon R. Scarff, F.R.C.S. (E.), the Aural Surgeon, reports as follows :—

“ During the past year, the number of children attending the Clinic was 579, of whom 382 were suffering from middle ear suppuration.

The treatment of middle ear suppuration is being carried out on the same lines as before—that is, dry treatment with insufflations of iodised boracic powder. 83 of the more chronic cases have been treated weekly by zinc ionisation ; in 39 cases the discharge has cleared up.

When there is any focus of infection in the nose or throat, these cases are referred to the various hospitals for treatment.

A very satisfactory feature is the diminishing number of chronic cases ; only eighty children attending for treatment at the end of the year of whom a large proportion were cases of recent suppuration.”

Sixty-five cases for diagnosis as to enlarged tonsils and adenoids were referred by the Maternity and Child Welfare Department.

(g) Dental Clinics.

Mr. W. H. B. Stride, L.D.S., Supervisory Dental Surgeon, reports as follows :—

“ The number of whole time dentists still remains at five, while in addition, Mr. Hazell and Mr. Rees give seven and five sessions respectively to the inspection and treatment of school children.

At the three new Health Centre buildings, provision is made for eight dentists, in place of the three at the Clinics previously in use. The Central Health Clinic has four surgeries and both Bedminster and Speedwell two each. The appointment of three additional dentists is to be made early in 1938. This will then give each dentist approximately five to six thousand children to deal with and should enable every child to be inspected at least once a year. The surgeries in the new buildings are well equipped with modern dental units. A gas and oxygen apparatus has been supplied at each centre and this has been found to give a quieter and longer anaesthesia.

That the new clinics are very much appreciated is shown by the comments of the parents. They feel that the children are highly privileged in that they are able to receive treatment under such ideal conditions.

The number of children inspected in school has risen to 32,000 and this occupied 252 sessions as against 2,809 sessions spent in treatment, a ratio of less than 1 : 11.

The consent rate has risen to 61%, and a certain number still prefer to arrange to have private treatment. A large number however of those who say ‘ private treatment ’ do so out of prejudice against clinics or to save themselves the trouble of bringing the children up for treatment and nothing is done. Often the children themselves decide the matter and a refusal is given. Quite a number of these parents could be persuaded to accept if it were possible for the parents to be visited. The large number of 2,700 casualties treated during the year partly consists of those who have previously refused or promised private treatment, and who would not require much persuasion to accept routine treatment at a Clinic.

The tables below show numerically the work carried out during the year but do not by any means tell all the story. How

conscientiously the work is done rests entirely with the individual dental officer whose task differs rather from that of the private practitioner who to a large extent is carrying out the wishes of his patients. There is still a considerable amount of prejudice among the parents against conservative treatment and the dentist must seek to persuade them to allow him to carry out conservative treatment of the permanent teeth in addition to, or instead of, the extractions that they desire. Time must be spent in chair-side talks, and, what is more difficult, the work of coaxing that small but appreciable percentage of really nervous and frightened children, of winning their confidence and persuading them to have some small amount of cavity preparation begun, or failing that, some very minor treatment carried out with a view to a future visit, ranks easily as one of the most exacting tasks that anyone is called upon to perform.

The School dentist has the opportunity of guiding this section of public opinion into the paths of conservative dentistry, and keen parents show that they wish to be able to bring their children for advice as well as for treatment. The standard of Clinic treatment must be maintained at a high level in order to contradict the popular views so often quoted, 'that filling operations are necessarily painful' and 'that teeth which are filled have subsequently to be extracted.' "

The following Table gives details of the work done by the whole-time dentists during the year :—

No. of children inspected	...	...	...	34,757
No. of children referred for treatment			...	27,871
No. of children actually treated			...	14,963
No. of teeth extracted :	Permanent	...	6,793	} 33,370
	Temporary	...	26,577	
No. of teeth filled :	Permanent		10,395	} 10,958
	Temporary	...	563	
No. of anaesthetics (local)	...	...	...	5,381
No. of anaesthetics (general)	...	...	...	11,211
No. of dressings	...	...	...	3,121
No. of other operations	...	...	...	2,288
No. of attendances for treatment	...	...	...	32,106

The dental treatment of mothers and young children under the joint scheme of the Education Committee and the Maternity

and Child Welfare Committee was modified during the year by the Health Committee appointing a dentist to deal with these cases. Particulars of the work done by the school dentists are given below :—

				<i>Mothers.</i>	<i>Young Children</i>
No. summoned	...	...		30	108
No. attended	...	...	...	30	94
No. inspected	...	...	...	30	94
No. treated	...	...	...	29	91
No. of attendances	...	...		85	265

The above work occupied 28 sessions of the dental surgeons' time, and 350 attendances were made.

(h) Orthopaedic and Postural Defects.

The provision of hospital treatment for tubercular and other orthopaedic conditions is as set out in previous reports.

The work of the Education Committee's Orthopaedic Clinic at Redcross Street School has been carried on as in previous years. Provision has been made at the Central Health Clinic for the orthopaedic examination and treatment of elementary school children and pre-school children, when the physically defective children now at Redcross Street are transferred to the proposed open-air school at Novers.

Mr. Hubert Chitty, M.S., F.R.C.S., the Orthopaedic Surgeon, reports as follows :—

“ The most noteworthy change seen of late years at the Orthopaedic Clinic has been the steady increase in the number of children who have attended before they reached school age.

This speaks well for the vigilance of the Maternity and Child Welfare Workers, as it is important to get hold of children with crippling defects at as early an age as possible. The younger a child is seen the more easily can its limbs be moulded into proper shape, whereas neglected deformities tend steadily to become exaggerated.

Infantile paralysis provides the greatest number of severe cases of crippling and there is some likelihood of an increase in the number of those attending the clinic next year as this disease has been more prevalent this autumn than it had been of recent years.

It is cheering to note how many cases are discharged from the clinic completely cured and how many more who have at one time attended Redcross Street School are now earning their living thanks to the treatment and the training they have received."

The following Table shows the various ailments found amongst the patients seen :—

	<i>Age 5 and over.</i>	<i>Under age 5.</i>
Paralysis : (a) Flaccid ...	64	13
(b) Spastic ...	42	26
Tuberculosis of Bones and Joints	34	3
Congenital abnormalities of Bones and Joints ...	40	18
Amputations	4	—
Rickets	17	58
Genu valgum	19	76
Various (flat-foot, spinal curva- ture, etc.)	333	50
	—	—
	553	244
	—	—

In addition to the above, 709 re-examinations were made during the twelve months.

The operations performed at Winford or one of the City Hospitals were as follows :—

Osteotomy	14
Tenotomy	17
Tendon transplant	7
Osteomyelitis	2
For tuberculous glands and joints ...	7
For hammer toes	4
For stabilization of feet	3
For torticollis	2
Dislocated hip	1
Wrenching and Plaster	2
Various	16

The provision and maintenance of surgical boots and appliances is a most important matter at a clinic of this kind, and during the year 184 recommendations were dealt with through the agency of the School Medical Officer.

(i) Heart Disease and Rheumatism.

Professor C. Bruce Perry reports :—

“ The work of the Heart Clinic has continued as in previous years, and there is little to add to the detailed description given in last year’s report. The opening of two new wards at Winford with the consequent increased hospital accommodation for the treatment of children with acute rheumatism and carditis has greatly facilitated the efficient treatment of these cases. As a result of regular attendance at the Clinic, parents are becoming more conscious of the importance of reporting immediately any symptoms suggesting a relapse or recrudescence of the rheumatic infection.

One great difficulty at the moment is, that parents do not realise the importance of acute upper respiratory infection, such as an apparently simple sore throat, in initiating a relapse of rheumatism. This is very important, since there is some evidence that treatment with salicylates for three or four weeks after the sore throat will do much to reduce the incidence of consequent rheumatic relapses. However, the possible significance of sore throats is being continually stressed and parents are beginning to report their occurrence without delay.”

During 1937, 270 new cases have attended the Cardiac Clinic, and 932 re-examinations have been made, making the total number of attendances 1,202. The following Table shows how the cases have been dealt with :—

SUMMARY OF CASES ATTENDING CARDIO-RHEUMATIC CLINIC.

271

	No treatment or restriction.	No treatment, but restriction of games.	Treatment, and attend school.	Treatment, and exclude from school.	Institutional treatment.	TOTAL.
NEW CASES.						
Rheumatic Heart Disease	31	24	5	3	44	107
Chorea	2	1	—	3	16	22
No Organic Disease	125	—	—	—	—	125
Congenital Heart Disease	15	—	1	—	—	16
Doubtful	—	—	—	—	—	—
	173	25	6	6	60	270
RE-EXAMINATIONS.						
Rheumatic Heart Disease	405	153	45	12	15	630
Chorea	24	—	5	2	4	35
No Organic Disease	154	1	4	—	—	159
Congenital Heart Disease	68	17	7	6	—	98
Various	4	6	—	—	—	10
	655	177	61	20	19	932

No. of individual children examined ... 808
 No. of new cases for 1937 ... 270
 No. of re-examinations ... 932
 Total No. of attendances ... 1,202

(j) Tuberculosis.

A total of 873 children was examined by the Tuberculosis Officer, of which 442 were old cases and 431 new. Of the latter 45 were classified as definite pulmonary tuberculosis, 53 as cases of non-pulmonary tuberculosis, 6 as suspected tuberculosis, and 327 as non-tubercular.

During the year, 155 children were discharged from sanatoria under the Health Committee's scheme after an average period of 225 days' treatment.

The number of attendances of children at the Tuberculosis Department was 1,317.

(k) Artificial Sunlight Clinic.

During 1937, 71 children of school age were given artificial sunlight treatment. Full details of the cases are given below :—

Defect.	No. treated.	Improved.	Stationary.
General debility ...	24	19	5
Bronchitis ...	17	13	4
Coughs, etc. ...	9	9	—
Enlarged glands ...	7	7	—
Malnutrition ...	6	5	1
Other defects ...	8	6	2
	71	59	12

The type of lamp used is the mercury vapour lamp, the cases having one, two or three courses. A course consists of twelve exposures of $1\frac{1}{2}$ minutes at commencement increasing by $\frac{1}{2}$ minute at each exposure.

(l) Child Guidance Clinic.

Dr. R. F. Barbour, D.P.M., the Medical Director, reports :—

“ During the year 1937 three hundred and forty children (222 boys and 118 girls) were seen at the Child Guidance Clinic. Of these two hundred and fifty-seven were new cases.

The appreciation of the policy of not limiting referrals to the educational system has been well brought out by the increasing number of cases which are referred direct to the Clinic by parents, doctors, social agencies etc.

Education authorities	...	...	...	165
Juvenile Court	...	...	...	70
Parents, Doctors, social agencies etc.	...	...	...	105

TABLE I.

Ages of children at time of referral.

<i>Age.</i>	<i>Number of children referred.</i>		
1	1
2	3
3	5
4	11
5	7
6	22
7	29
8	29
9	22
10	37
11	28
12	36
13	40
14	30
15	22
16	18
Pre-school children	12
Attending school	286
Post-school	42

The Social Service department in addition to the routine work of collecting information about cases has two other major functions. The first is the guidance of the parents, while the children are attending the Clinic, as to how to handle many of the problems arising at home, and the second is creating a link between school, home and medical services. In many cases it is the extra light that the social worker can throw on the home environment which

gives the teacher a fuller understanding of the child and his problems. Equally she can present to the psychiatrist a more intimate picture of the school problem than is given by an official report.

The work in the social service department last year included :—

Interviews with parents in Clinic ...	931
Interviews with children in Clinic...	13
Other interviews	34
Home visits	289
School visits	267

The psychological department has, owing to certain limitations of time, been forced to restrict itself largely to routine testing of individual children. There have been

Examinations	201
Re-examinations	16
Treatment interviews	112

In this department the individual intelligence test that has been used is the 1917 Terman Revision of the Binet-Simon Test. In 1938 it is hoped to start using the 1937 Terman-Merrill Revision. For estimating the school accomplishments the Burt Educational Tests have been employed. The following table gives the range of intelligence quotients of the children referred during 1937 :—

<i>Intelligence Quotients.</i>	<i>Number of children.</i>
Under 65 ...	13
65— 74 ...	17
75— 84 ...	42
85— 94 ...	45
95—104 ...	29
105—114 ...	32
115—124 ...	14
125—134 ...	6
Over 135 ...	3

The intelligence quotient for normal children is between ninety and one hundred and ten. The above figures show that over half the children referred were “dull,” that is, below normality in intelligence.

The work in the psychiatric department was as follows :—

Examinations	239
Physical examinations	224
Treatment interviews with children	932
Treatment interviews with parents	38
Play-group attendances ...	136

TABLE II.

Reasons for referral.

Nervous Disorders.

Fears	29	
Shyness	11	
Emotional instability ...	22	
Depression	3	
	—	
	65	19%

Habit Disorders.

Speech disorders ...	16	
Sleep disorders ...	17	
Movement disorders ...	7	
Incontinence ...	36	
	—	
	76	23%

Behaviour Disorders.

Unmanageable ...	39	
Temper	15	
Aggression	12	
Stealing	70	
Truancy	8	
Sex	18	
	—	
	162	48%

Intellectual Disorders.

Backwardness ...	28	
Special disabilities ...	2	
Vocational guidance cases	3	
	—	
	33	9%

<i>Organic disorders</i>	3	1%
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In many of the cases it was found on examination that more than one problem was present, e.g., backwardness and truanting, or stealing and enuresis, but only the major symptom for which the child was referred to the Clinic has been tabulated.

The Clinic is fortunate in having a large playroom which was opened in March. Here the child can be given considerable freedom of play. There are large sand trays, running water, a big black-board, a dolls' house and other toys so that each child can find the play material which will be most helpful in solving his or her own emotional problems. For a certain group of children in which the endogenous side of the problem is uppermost play-therapy appears to be the most satisfactory form of treatment.

No table showing the results of treatment is given in this report as it is felt that one cannot claim that a child is adjusted until the child has remained well in his own environment for at least a year."

(m) Speech Clinic.

The clinic for stammerers was continued during the year. Each child attends twice weekly for a period of 60 minutes each.

Miss D. Wilson, M.S.S.T., who is in charge of the clinic reports as follows :—

"It was found necessary to arrange for a third session weekly in May, 1937, to meet the needs of those children who had some speech difficulty other than a stammer and who needed individual help.

At the end of the year 18 children were attending the stammerers' classes twice weekly, and 9 the speech defects class once weekly. The attendances were respectively 1,404 and 192 — 1,596. Seven children were discharged during the year and their progress will be duly followed up. The clinic serves for all parts of the city, and some difficulty was experienced owing to the extended period of treatment and the expense of travelling to and from the clinic. To meet this difficulty it has been decided to issue travel vouchers to all cases coming from more than a mile to the clinic."

(n) Medical Treatment of the Pre-School Child.

Children under five years of age may be examined and treated at school clinics when reported by the Maternity and Child Welfare Department.

The Health Visitors are provided with cards by means of which cases of diseases of the eyes, ears, skin and minor ailments can be referred to the clinic for the district.

The following cases were dealt with in this way during the year :—

Eye disease	...	...	...	45
Otorrhoea	...	...	...	104
Skin diseases	...	...	...	320
Minor ailments...	...	...	...	92
Various	...	...	...	90
				—
				651
				—

VIII.—INFECTIOUS DISEASE.

The number of cases of diphtheria occurring in children of school age during the year was 259 as compared with 335 in 1936. The deaths from this disease were 3 as against 10 in the previous year.

During 1937, 2,329 school children received a full immunising course of inoculations against diphtheria.

The complete figures for the year are as follows :—

Number received full course of immunising inoculations	...	...	...	...	2,329
Number Schick-tested after immunising course					2,279
Number of observations	...	...	...		2,191
Results—					
Negative...	...	...	2,147	}	2,191
Faint positive	...	...	18		
Positive	...	...	26		
Percentage negatives, 1937	...	...	...		97·9
—					
No. Schick-tested before inoculations	...	...			129
Number of observations	...	...	...		120
Results—					
Negative	...	...	72	}	120
Faint positive	...	...	23		
Positive	...	...	25		

The incidence of scarlet fever was slightly less than in 1936 ; 469 cases as against 606.

The total number of non-notifiable diseases shows a decrease of 642 as compared with 1936.

The following Table gives details of notifiable and non-notifiable infectious diseases for the year :—

A.—CASES OF NOTIFIABLE INFECTIOUS DISEASES AMONGST SCHOOL CHILDREN, WITH CONTACTS.

1937.	Cerebro-Spinal Fever.		Scarlet Fever.		Diphtheria.	
	Cases	Contacts	Cases	Contacts	Cases	Contacts
1st Quarter	2	2	108	125	65	87
2nd Quarter	1	2	92	104	33	53
3rd Quarter	—	—	108	189	57	81
4th Quarter	1	2	161	171	104	138
	4	6	469	539	259	359

Ten cases of Polio-myelitis and one case of Polio-encephalitis also were notified.

CASES OF NON-NOTIFIABLE INFECTIOUS DISEASES AMONGST SCHOOL CHILDREN.

	1st Quarter.	2nd Quarter	3rd Quarter.	4th Quarter.	Totals.
Whooping Cough ..	280	116	98	55	549
Chicken Pox	267	701	316	508	1,792
Mumps	2,230	843	42	48	3,163
Measles	83	100	32	508	723
German Measles ..	11	5	4	3	23
	2,871	1,765	492	1,122	6,250

B.—1937.

Cause of Death (Ages 5-15).

Scarlet Fever .. ..	..	..	..	..	..	3
Diphtheria and Croup ..	..	..	..	..	..	3
Influenza .. ..	..	..	..	..	..	2
Encephalitis Lethargica ..	..	..	..	..	..	2
Cerebro-spinal Fever ..	..	..	..	..	..	—
Tuberculosis of Respiratory System ..	..	..	..	..	..	3
Other Tuberculous Diseases ..	..	..	..	..	..	15
Cancer and Malignant Disease ..	..	..	..	..	..	1
Diabetes .. ..	..	..	..	..	..	1
Heart Disease .. ..	..	..	..	..	..	2
Pneumonia (all forms) ..	..	..	..	..	..	4
Rheumatic Fever .. ..	..	..	..	..	..	6
Appendicitis .. ..	..	..	..	..	..	2
Digestive Diseases .. ..	..	..	..	..	..	1
Congenital Debility and Malformation ..	..	..	..	..	..	2
Violent Deaths .. ..	..	..	..	..	..	14
Nephritis .. ..	..	..	..	..	..	4
Measles .. ..	..	..	..	..	..	—
Other Diseases .. ..	..	..	..	..	..	21
All Causes						86

IX.—OPEN AIR EDUCATION.

Except for the fact that most of our modern schools are built on open air lines, no special provision is made for open air education in public elementary schools.

X.—PHYSICAL INSTRUCTION.

The closest co-operation exists between the School Medical Officer and the Organisers of Physical Training. Children unfit for games and exercises, or requiring modifications of these are notified to the Head Teachers.

Mr. J. M. Milne, Chief Organiser of Physical Training, reports :—

“ The outstanding event during 1937 connected with physical education was the passing by Parliament of the Physical Training and Recreation Act, 1937. The manner in which it was received by the press and the public generally is evidence of the widespread belief that national efficiency and personal happiness can only be obtained if the nation as a whole is as fit as possible.

The Physical Training and Recreation Act has followed quickly on the Board of Education's circulars issued last year stressing the necessity of suitable provision being made for physical training in the schools, and it is hoped that there will be close co-operation between the Area Committees which have been appointed under the Act and Local Education Authorities in order that the best results may be obtained.

Owing to the steadily increasing development of adult recreational classes and the necessity for further teachers' refresher courses, Mr. R. A. Young and Miss G. W. Baker were appointed as assistant organisers at the beginning of September.

The Committee have not only sanctioned the erection of a gymnasium at Cotham Secondary School and at a number of senior schools, but, where indoor accommodation is not available on the school premises, the use of a hall, where this is in close proximity to the schools, has been obtained in a number of cases for senior school children.

Two additional playing fields with a combined area of 43 acres have been purchased and the Rugby Memorial Ground has been rented in order to provide facilities for organised games for the schools in the Knowle West, Southmead and Horfield areas.

There is no doubt that physical exercises lose much of their beneficial effect if those taking part in them are unsuitably clothed or shod. The Board of Education therefore consider the provision of necessary clothing and footwear for physical training as part of the school equipment and the Bristol Education Committee decided to provide physical training clothing and shoes for all children in senior departments.

Arrangements for the supply and storage of these garments are almost completed, and changing facilities for the physical training lesson should be available in all senior departments at Easter.

The need for further playing fields is also realised and negotiations are in progress with the view to obtaining sufficient land to enable every senior department, and if possible the top class of juniors, to attend a playing field once a week.

In the majority of cases where senior reorganised schools are situated more than a mile from a playing field or swimming bath, the Committee are providing transport. This is a great asset as valuable time was spent previously in travelling to and from the playing field or swimming bath.

In order that the important exercises taken in lying and sitting positions should not be omitted when the physical training lesson is taken in the playground, a set of playground boards has been provided for all Infant, Junior and unreorganised departments where a hall is not available.

In a number of schools it has been possible to provide changing rooms and, where alterations are being made to school buildings or new schools are being erected, both changing room and shower baths are being provided.

Refresher Courses for Teachers, Club Leaders and Demonstrations.

The following refresher courses have been held during the year :—

<i>Men.</i>	1. <i>Teachers in Senior Schools.</i>		
	June to July	... 132 hours.	
		Number on register	31
	2. <i>Club Leaders' Course.</i>		
	October to December	15 hours.	
		Number on register	15

Women. 1. Teachers in Senior Schools.

October to December	25 hours.	
(Tuesday.)	Number on register	27

2. Teachers in Senior Schools.

October to December...	25 hours.	
(Thursday).	Number on register	36

3. Teachers in Evening Institutes and Club Leaders.

September to December	19½ hours.	
	Number on register	58

At the end of each refresher course for teachers in senior schools demonstrations were given by senior children and the teachers' classes.

In addition to these refresher courses the men and women teachers have formed Physical Training Associations and have held weekly meetings during the winter. The membership of each association is approximately fifty which speaks highly of the enthusiasm and interest of the teachers in physical education.

The Committee also arranged for three teachers to attend a three months' course in physical education during the autumn term and they have agreed to a further nine attending similar courses during 1938 (three each term).

A number of teachers also attended Vacation Courses during the summer and the policy of the Committee in deciding to pay the travelling expenses and fees for these courses is to be commended.

National Health Campaign.

In conjunction with the National Health Campaign a series of meetings has been held in several districts of the city and in each case demonstrations of "Keep Fit" work by classes in the area concerned have been the main part of the proceedings. A central demonstration, to which the leading citizens were invited, was held at the Colston Hall on the 16th December, when exhibitions of Recreative Physical Training were given by members of the newly formed Bristol Teachers Physical Training Associations.

Recreative Physical Training.

Every effort has been made during the year to extend the number of adults participating in "Keep Fit" work not only on Evening Institute premises but where possible on the premises of clubs and large firms. These classes, which consist of recreative physical training, boxing, fencing and swimming for men and boys and "keep fit," classical, tap and country dancing and swimming for women, have attracted a total of 4,352 enrolments this winter. This is an increase of 100% on last year. The necessity of suitable accommodation to cater for steadily increasing enrolments is very urgent especially in the centre of the city where there is a serious lack of school halls and gymnasia. It has been possible to arrange a number of classes on the premises of large firms.

A Central Physical Recreation Centre with at least two gymnasia is urgently required.

Play Centres.

These centres meet an urgent need in congested areas, particularly where there are large families and practically no indoor play time facilities. At each centre the boys and girls meet on two separate evenings per week.

A new centre was opened in October at Easton Road School and has entirely justified itself having an average nightly attendance of 350 to 400.

The average attendance at each centre was as follows :—

<i>Summer Play Centres.</i>				Average attendance
Baptist Street	...	Boys and Girls	...	67
Gordon Road	...	" "	...	155
St. Silas	...	" "	...	87
Shirehampton	...	" "	...	62
<i>Winter Play Centres.</i>				
Baptist Street	...	Boys and Girls	...	205
Bedminster Bridge	...	" "	...	174
Carlton Park	...	" "	...	267
Easton Road	...	" "	...	362
Hotwells	...	" "	...	162
St. Philip's	...	" "	...	149
Shirehampton	...	" "	...	202

Swimming.

The swimming season proved quite successful, but owing to the congestion in the baths after school hours it has been decided to cease the after-school classes during the summer months and to extend the work during school hours by permitting the substitution of a swimming lesson for a physical training lesson for second and third year children in senior departments and also the attendance of the top class of junior children where schools are situated close to a swimming bath.

XI.—PROVISION OF MEALS.

During the year, 353,119 free dinners have been supplied as compared with 265,597 in 1936. In addition, 1,160,461 free milk meals were given.

The School Medical Staff and Head Teachers notify all children whom they consider would benefit from free meals and/or milk. As soon as cases are notified arrangements are made for their inspection by a medical officer, who issues a certificate recommending meals and/or milk for a period of six months. On receipt of the certificate meals commence at once pending the investigation into the family circumstances.

During 1937, 10,358 examinations of children for free milk and/or meals were made and extra nourishment was recommended as follows :—

Meals	...	...	...	...	19
Milk and meals	...	...	...	...	3,705
Meals, and milk twice daily	...	...	...	...	539
Milk only	...	...	...	...	4,619
Milk only twice daily	...	...	...	...	1,476
					<hr/>
					10,358
					<hr/>

Milk in schools.

The supply of milk under the "milk in schools scheme" continues and thanks to the loyal support of the scheme by the head teachers, the quantity consumed remains at a good level as is

shown by the following summary of Forms 208M on 1st October, 1937.

SCHOOLS.	No. on books	No. receiving milk		Total	% of number on books	
		Free	On payment		1/10/37	31/3/37
Elementary (including Central Schools) ...	50,918	5,413	26,506	31,919	62·68	60·7
Secondary (including Technical School) ...	2,134	5	462	467	21·88	14·7
Special (excluding Knowle Open-air School)	431	151	204	355	82·36	91·4
Nursery Schools	53,483 222	5,569 ...	27,172 222	32,741 222	61·21	59·2
	53,705	5,569	27,394	32,963		

Only pasteurised milk is supplied and samples are taken periodically at the schools for examination at the Preventive Medicine Department.

It is to be regretted that when a child who has had milk in school regularly, free or purchased, becomes unfit for school for any reason, the milk cannot be conveyed to the home during the child's absence from school and is thus stopped at a time when the child needs it most. In these cases, the difficulty is sometimes met by a recommendation for extra nourishment being sent to the Unemployment Assistance Board or the Relieving Officer.

In consequence of an epidemic of sore throats a number of natural straws were examined and several were found to contain a fine hairy growth developing into a green mildew. The suppliers were at once notified that only straws that can be guaranteed sterile must be used. Following this discovery an unopened packet of straws was obtained from each supplier and conveyed to the Preventive Medicine Department for examination.

On examination of 40 natural straws 33 were found to contain organisms and only 7 were classed as sterile.

The conclusion arrived at was that these natural straws are a danger to health just as water with a high bacterial content is potentially dangerous to health. In view of the fact that it is almost impossible to sterilise natural straws, many of which are of foreign origin, the Education Committee decided, on the recommendation of the Medical Officer of Health,

- (1) that artificial straws only should be used in schools ;
- (2) that the straws be supplied in small boxes containing not more than 500 straws in each box.

As a further protective measure, a dust-proof tin receptacle capable of being scalded and cleansed from time to time has been supplied to each department, in which the cardboard containers may be stored.

XII.—CO-OPERATION OF PARENTS.

Some days before a routine medical inspection in school, written notification is sent to the parents requesting their attendance at the examination and during the year the number present at routine inspections was 12,332. The following is an analysis of these attendances :—

Code Groups.	No. of Children Examined	No. of Parents present	Percentage
Entrants ...	5,396	4,865	90·16
Second Age Group	5,647	4,570	80·93
Third Age Group	4,846	2,873	59·29
Other Routines ...	123	24	19·51
	16,012	12,332	77·02

At the clinics, when any special examination is required (*e.g.*, for eye, ear and orthopaedic cases) the parent almost invariably accompanies the child.

The interest amongst the parents in regard to matters of hygiene is maintained, and on the whole they co-operate readily with the School Medical Department in any efforts to improve the health of the children.

Co-operation of Teachers.

It is again our very pleasant duty to express our gratitude to the Bristol teachers for the invaluable and ungrudging help given to us during the year. As our work increases we realise more and more to what extent the efficiency of our service depends on this assistance.

Co-operation of School Attendance Officers.

A close relationship exists between the School Medical and School Attendance Departments. The Superintendent Attendance Officer and his staff provide reports on a large number of children, and assist greatly in securing the attendance of absentees for examination at clinics. By their visits to homes, they obtain information in regard to environment and other factors which may affect the health of children, and this is often of great assistance to us in dealing with difficult cases. A number of parents who refuse to obtain treatment for their children are visited and action is taken in cases of neglect and cruelty.

The Attendance Officers also help by collecting the small weekly instalments by which the majority of parents prefer to pay for spectacles and surgical appliances supplied to their children. This means a great deal of home visiting and a considerable amount of clerical work.

Co-operation of Voluntary Bodies.

The Bristol Crippled Children's Society assisted in dealing with a large number of crippled cases during the year. 112 were sent to the Winford Orthopaedic Hospital for prolonged periods, 3 to other hospitals at the seaside or in the country, 100 to convalescent homes, and 29 to farms.

The Bristol Crippled Children's Society Committee, of which Dr. Dalby and Mr. Gregory are members, meets at regular intervals to consider means of assisting patients after their discharge from Winford Hospital, or Redcross Street School, and also children leaving the deaf and partially sighted schools.

Cases where definite cruelty is discovered are reported to the National Society for the Prevention of Cruelty to Children, and the parents cautioned, or prosecuted by their Inspectors. The good work done by this Society is very much appreciated by the department.

XIII.—BLIND, DEAF, DEFECTIVE & EPILEPTIC CHILDREN.

The methods of ascertainment and classification of these cases have been described in previous reports. At the present time four of the medical officers in the department are recognised by the Board of Education for the purpose of Section 55, Education Act, 1921, and Section 31, Mental Deficiency Act, 1913.

(a) Feeble-minded Children.

The Committee maintains two schools for feeble-minded children : Redcross Street School which accommodates 199, and Orchard Place School which accommodates 88. The total number in the two schools at the end of the year was 171.

The figures are set out below :—

		<i>Redcross Street.</i>	<i>Orchard Place.</i>	<i>Total.</i>
No. admitted during 1937	...	25	15	40
No. discharged	... ..	31	17	48
No. on register at end of year	...	120	51	171

The number of retarded children referred by Head Teachers and investigated during the year was 127. In addition, 13 children attending Special Schools were examined at the request of their parents, who made application for them to leave school before attaining the age of sixteen.

A re-examination of the children attending these schools was carried out during the year.

(b) Physically Defective Children.

At Redcross Street School the recognised accommodation for physically defective children is 140. The cases admitted include disease of bones, joints and general nervous system, with, in addition, a number of "cardiac cripples" having congenital or rheumatic heart disease.

The children are conveyed to and from Redcross Street School in special ambulances, and the majority of the scholars have their mid-day meal in school.

Mr. Chitty, the Orthopaedic Surgeon, or the Assistant, Mr. Pridie, visits the school twice weekly to examine children and to advise as to treatment, which is carried out in the Orthopaedic Clinic attached to the school.

A considerable number of children under school age also are referred to this clinic by the Maternity and Child Welfare Department. In this way, children with crippling defects are treated during the earliest stages of the disease.

The Nurse in attendance carries out massage and electrical treatment, and also all the necessary work in connection with the treatment of eye, ear, skin and minor ailments for both departments of the school. The total number of attendances made for treatment last year was 16,988 of which 6,541 were for orthopaedic treatment and 10,447 for the other ailments mentioned.

Surgical boots and appliances are obtained for the children on the advice of the School Medical Officer, and a large number of repairs to apparatus are made every year through the same agency.

During the year the following admissions and discharges were made :—

No. of admissions	...	...	...	...	...	34
No. of discharges	...	...	...	...	...	41
No. on register at end of year	...	...	...	...	...	87

The following table shows the different ailments from which the children are suffering :—

				Boys.	Girls.	Total.
Paralysis :	(a)	Flaccid	...	14	12	26
	(b)	Spastic	...	3	4	7
Tuberculosis :		bones and joints		3	4	7
Hemiplegia	...	...	...	5	2	7
Amputations	...	...	...	2	—	2
Osteomyelitis	...	...	...	1	1	2
Spinal curvature (non-tubercular)				4	4	8
Rickets	...	...	...	4	3	7
Heart disease and chorea	...			3	—	3
Muscular dystrophy	...	...	...	—	1	1
Talipes	...	...	...	3	2	5
Encephalitis	...	...	...	2	—	2
Cut tendon	...	...	...	1	—	1
Petit mal	...	...	...	1	1	2
Hydrocephalus	...	...	...	—	1	1
General debility	...	...	...	—	1	1
Asthma	...	...	...	1	—	1
Tracheotomy	...	...	...	—	1	1
Epilepsy	...	...	...	1	—	1
Dural abscess	...	...	...	1	—	1
Multiple fractures	...	...	...	1	—	1

In addition one boy is maintained at the Heritage Craft Schools, Chailey.

(c) **Delicate Children.**

(1) *Knowle Open Air School.* The delicate and convalescent attend this school on the recommendation of the medical staff. A Medical Officer visits the school every week to examine special cases and ensure that each child is inspected at least once every six months. A nurse is in attendance all day for the purpose of treating minor ailments, supervising meals, etc. One afternoon a week is devoted to home visits.

Dental treatment is carried out by one of the Committee's dentists.

During 1937 the figures for the School were as follows :—

No. of admissions	...	...	...	...	43
No. of re-admissions	...	...	...	...	5
<hr/>					
No. discharged fit for work	...	...	...	...	9
No. discharged fit for ordinary school				...	36
No. discharged for other reasons	...	...	...	...	10
<hr/>					
					55
<hr/>					
No. on registers at end of 1937	...	...	...	...	118
Average attendance	...	...	...	...	99·4

(2) *Park Classes.* In St. George, Eastville and Bedminster Parks, classes for delicate children are held in the bandstands all the year round. The classes are conducted on similar lines to those of Knowle Open Air School, and have the advantage of being near to the homes of the children.

	<i>Bed- minster.</i>	<i>East- ville.</i>	<i>St. George.</i>
No. on the registers at the end of 1937	...	...	...
	26	25	25
Average attendance for the year	21·1	22	19·4

In addition there are two girls at St. Patrick's Open Air School, Hayling Island.

Carlton Park Special School.

This Special School now has accommodation for 125 children. There were on the registers at the end of the year 110 children, of whom 66 have progressive short sight or seriously damaged vision, 13 are partially deaf and 31 totally deaf.

Although these children are in the same building and under the same Head Teacher, the three different groups are, of course, kept quite separate both educationally and socially.

(d) Deaf-mute children.

No. of admissions during 1937	...	...	...	2
No. discharged	...	...	...	3
No. on register at end of year	...	...	...	31

Of this total, 1 boy and 4 girls come from other Authorities. In addition, 2 boys are maintained at the Institution for Deaf and Dumb Children, Exeter, and 1 boy at Rayners School for the Deaf, Penn, Bucks.

(e) Partially Sighted Children.

In this Department, the children have defects of the eye or vision which make teaching by ordinary methods undesirable. At the same time, they are not cases which require attendance at a Blind School, and are not likely to take up occupations generally selected by the blind. The whole curriculum is therefore designed to prevent eye strain, the teaching is mainly oral, and every effort is made to train the children to avoid overuse of the eyes. All cases are under careful and regular supervision by the ophthalmic consultant.

No. admitted during 1937	...	...	...	17
No. discharged	...	...	...	21
No. on register at end of year	...	...	...	66

Of this total, 5 boys and 2 girls come from other Education Authorities.

(f) Partially Deaf Children.

In the Partially Deaf Department, the children are too deaf to benefit from the instruction given at ordinary school. They still retain sufficient hearing, however, to keep them from degenerating into the deaf-mute condition, and every effort is made to retain the speaking voice by means of speech exercises and lip-reading.

No. admitted during 1937	...	...	...	2
No. discharged	...	...	...	6
No. on register at end of year	...	...	...	13

Of this total, 2 boys come from other Authorities.

(g) Blind Children.

Fifteen blind children are maintained by the Education Committee at the following school :—

Westbury Blind Asylum ... 15 (11 boys, 4 girls).

In addition, one girl is maintained at North Wales School for Blind Children, Rhyl, and one boy at the Roman Catholic Blind School, Liverpool.

**XIV.—FULL TIME COURSES OF HIGHER EDUCATION
FOR BLIND, DEAF, DEFECTIVE AND
EPILEPTIC STUDENTS.**

Provision is made at the Royal School of Industry for the Blind, Westbury-on-Trym, for Higher Education blind cases. Most of the young people concerned were in the school before reaching the age of 16. The number being maintained at the school by the Local Education Authority at the end of 1937 was 8.

Payment has also been made by the Authority towards the maintenance of six adult trainees during their period of training at the Blind Workshops. As soon as their period of training is completed, they are employed as paid workers in the workshops and the financial liability is then undertaken by the Blind Persons Act Committee.

No contribution is being made at the present time towards the Higher Education of any deaf, or epileptic young persons, but one defective boy is maintained at the Stanmore Cripples Training College.

XV.—NURSERY SCHOOLS AND CLASSES.

The number of children on the registers at the two nursery schools at the end of 1937 was as follows :—

	<i>No. on registers.</i>		
St. Werburgh's Nursery School 	116
Friar's Nursery School 	103

Three Nursery Classes were opened during 1936 :—

		<i>Classes.</i>	<i>Accommodation.</i>	<i>No. on registers (Dec., 1937).</i>
St. Philip's Marsh	...	2	71	58
Newfoundland Road	...	1	40	38
Carlton Park	...	1	34	30
		<hr/>	<hr/>	<hr/>
		4	145	126
		<hr/>	<hr/>	<hr/>

Nursery Classes were opened during 1937 at the following schools :—

		<i>Classes.</i>	<i>Accommodation.</i>	<i>No. on registers (Dec. 1937).</i>
Chester Park	...	1	40	30
Fishponds College	...	1	40	36
St. Anne's Park	...	1	40	20
St. Luke's (Bedminster)		1	40	31
St. Mary Redcliffe	...	2	80	59
Summerhill	...	1	40	30
		<hr/>	<hr/>	<hr/>
		7	280	206
		<hr/>	<hr/>	<hr/>

Partially provided nursery classes, that is classes equipped on nursery lines in order to make better provision for children aged 3 to 5 years, have been opened at the following schools :—

		<i>Classes.</i>	<i>Accommodation.</i>	<i>No. on registers (Dec. 1937).</i>
Hillfields Park	...	1	40	24
Eastville	...	1	40	27
Parson Street	...	1	40	25
Anglesea Place	...	1	40	25
Windmill Hill	...	2	80	62
Bedminster C.E.	...	1	40	34
St. Philip's	...	1	35	28
St. Mary's-on-the-Quay		1	40	33
		<hr/>	<hr/>	<hr/>
		9	355	258
		<hr/>	<hr/>	<hr/>

Medical inspection in the nursery school and classes is carried out by the medical officers of the Maternity and Child Welfare Department. The number of examinations made during the year was 1,183.

Cases for action are shown in the following table :—

Defective vision	...	...	...	...	6
Squint	...	...	...	...	15
Defective hearing	...	...	...	...	4
Ear disease	...	...	...	...	11
Enlarged tonsils	...	...	...	...	36
Adenoids	...	...	...	...	10
Tonsils and adenoids	...	...	...	...	10
Other nose and throat conditions	...	...	...	...	20
Teeth	...	...	...	...	173
Deformities	...	...	...	...	6
Heart condition	...	...	...	...	2
Other defects	...	...	...	...	10

Five children received courses of artificial sunlight.

Dr. Marguerite Hughes, Chief Assistant to the Maternity and Child Welfare Department, who supervises the medical work in the Nursery Schools and Classes, reports as follows :—

“Nursery school work is one of the satisfactory developments of the co-ordination of the school medical and maternity and child welfare services. The work is of the greatest importance dealing as it does with the pre-school child.

The medical supervision of these children has always presented a difficulty; mothers are willing to attend infant welfare centres with their children up to the age of eighteen months or two years, but after that age, there is a considerable decrease in attendance. Visits are paid to the home by the health visitors, but there is no medical supervision with the result that a large number of entrants to schools are found by the school medical officers to be suffering from defects, such as squint, enlarged tonsils and adenoids, dental caries, etc., all of which should have been treated before admission to school.

The nursery schools and classes appear to be a solution of this problem. The child is examined by a medical officer on admission and at six-monthly intervals; and is weighed and measured also every six months. Any child who does not appear to be developing normally is examined and weighed as frequently as is necessary.

The health visitor attends the school or class in her district and in this way there is a linking-up with the mother, the Maternity and Child Welfare Department and the school. The health visitor attends every day to carry out treatment of minor ailments, e.g., impetigo, ear discharge, cuts, etc., and she sees any child about whom the teacher is not satisfied.

The relations between the teachers and the health visitors are of the happiest, and the help given by the teachers has done a great deal towards producing the excellent results seen in this work.

The results are naturally best in the nursery schools where the children are admitted at the age of two years, and where a mid-day meal is provided. The children are given milk, cod-liver oil emulsion (except in the hot weather), and in most cases an iron preparation is added.

The dentists report a very marked improvement in the teeth of the children. At St. Werburgh's, there was a most satisfactory acceptance of dental treatment (90%)—this is due to the co-operation between the teaching staff, the medical staff, and the mothers.

There is a most marked improvement also in the general health of the children.

In the nursery classes the children are admitted at the age of three years. The medical supervision and general hygiene are carried out on the same lines as at the nursery school. Milk, brown bread and butter and apples are given at mid-morning and at the end of the afternoon session, but no mid-day meal is provided.

The later age of admission and the lack of provision of the mid-day meal are drawbacks, but even so, the results are very good. The general health of the children shows a marked improvement and any defects discovered are treated.

In the partially provided classes, it has not been possible to undertake such detailed medical work as one would like, owing to the shortage of staff. In these classes, the health visitor working

in the district calls once a week, examines any child about whom the teacher is dissatisfied and where necessary refers the child to a private practitioner, hospital or clinic according to circumstances. The children are admitted at three years of age, and are given milk, brown bread and butter, apples and cod-liver oil emulsion, as in the nursery classes.

A first-aid outfit is kept in the classes and the health visitors show the teachers how to do emergency dressings.

Although so much less is done in these classes, the results are surprisingly good, and the general health improves. It has been possible to prevent the spread of impetigo, and a good deal is being done towards dealing with the usual defects occurring in children of this age."

XVI.—SECONDARY SCHOOLS.

There are twelve non-municipal and four municipal secondary schools, with one junior technical school in the city.

(1) Medical Inspection.

Medical inspection is only carried out in the municipal secondary schools and the junior technical school.

All children obtaining special places in secondary schools are required to pass a medical examination prior to admission, and the number so examined in 1937 was 376.

All the pupils of these schools, irrespective of whether they are free-place students or otherwise, are subjected to an annual medical inspection.

Parents are invited to attend but the response is not nearly so good as in the case of elementary schools.

The number of children examined in a routine way during 1937 was 1,862, including junior technical pupils.

The system of following up defects is the same as that for elementary school children.

(2) Medical Treatment.

Any physical defects found are notified to the parents, who usually make arrangements with the family doctor for treatment

except in the case of defects which require prolonged or specialised treatment. For instance, ailments of the eye, ear, nose and throat are usually attended to at one of the school clinics. Spectacles are as a rule provided through the School Medical Department, on the prescriptions of the Committee's oculists.

Cases of spinal curvature, flat-foot, etc. are referred for examination to the Orthopaedic Clinic, and where necessary, treatment is provided at that clinic.

No differentiation is made between "special place" or fee-paying pupils who wish to avail themselves of treatment under the Authority's scheme. Whilst no charge is made for treatment at the school clinics, voluntary contributions are invited from those seeking dental treatment.

XVII.—PARENTS' PAYMENTS.

No charge is made to parents for treatment of either elementary or secondary school children but they are invited to make voluntary contributions.

The cost of spectacles and surgical boots is recovered from the parents by instalments which are collected by the Attendance Officers. The Education Committee, however, in necessitous cases may remit part or whole of the cost.

			£	s.	d.
Cost of spectacles	...	...	155	12	3
Amount collected	...	...	110	13	0
Cost of Surgical appliances	...	...	56	1	0
Amount collected	...	...	47	5	7

At the dental clinics the voluntary contributions amounted to £178 17s. 0d.

XVIII.—HEALTH EDUCATION.

The staff of the School Medical Service do not give any direct instruction in Health Education in schools. They have, however, given lectures on medical and dental work to various "parent-teacher" societies.

XIX.—SPECIAL INQUIRIES.

During the year investigations were made into the nutrition of school children by Dr. Llywelyn Roberts :—

NUTRITION.

The Board of Education require children to be classified in respect of their nutrition into the following categories :—

A	...	nutrition :	Excellent.
B	...	„	Normal.
C	...	„	Slightly subnormal.
D	...	„	Bad.

No standards have ever been laid down to help in this classification. All workers upon nutrition problems have deplored this fact and many have sought to find various indices or short cuts in order to assess a child's standard of nutrition. The indices suggested have been mostly in the nature of mathematical fantasies based upon various measurements such as height, weight, leg length, trunk length, circumference of trunk or leg, etc. It seemed to us that nutrition was something more than could be expressed in a formula however comprehensive. It involved a review of the child's general "make-up," his physique, his power, his mental capacity. Notice should also be taken of the factors which might influence his "make-up"—the physique of the mother and father, the home conditions and the economic state of the family.

It must also be realised that all the "signs" which are attributed to malnutrition, are really due to malnutrition in the past. It is true that the same causes may be acting to-day, but their effect will only become evident after a passage of time. In any investigation into malnutrition great emphasis should be laid upon the history of the case, and this may mean a review of the health and circumstances of the parents in their early years.

It is often impossible to make a complete review such as we have suggested above, and we have not developed this line of investigation, but we still believe that it is very important.

The investigation to be described was evolved as a result of a previous survey into malnutrition. Two experienced medical officers assessed two groups of school children and arrived at very discordant results. It was realised that in the absence of a standard of what constituted a well or badly nourished child, any further investigations were bound to be valueless. The object of this investigation was to attempt to define and evaluate the factors

which constituted a well nourished (Group A) child and those which (either by their presence or absence) constituted a badly nourished child (Groups C and D).

The children were surveyed and the findings can be divided into two categories :—

1. Investigations of signs attributable to good or bad nutrition.
2. Investigations into the causes of malnutrition.

The Children investigated.

The children belonged to the Intermediate Group and were all between 9 and 10 years of age at the time of the survey. The reasons for choosing this age group are :—

- (1) The survey was based on the findings of school medical inspections.
- (2) The entrants (aged 5) could not be expected to give the co-operation necessary.
- (3) By the age of 12, when the final school medical inspection occurs, there would have been some sifting of the children into secondary schools, and so the sample left to us would not be representative of the group. We were therefore left with the intermediate group and since so many are not examined until they reach the age of 9 years it was decided to examine the group 9—10 years.

There were six medical officers engaged in school medical inspection in Bristol and when their reports came in with the classification of the children into the nutrition groups mentioned, a clerk extracted the names, addresses and schools of boys and girls aged 9—10 years who were either Nutrition A or Nutrition C or D. It was hoped to obtain about 400 children for examination as follows :—

Group A	...	Girls	100
		Boys	100
Group C or D	...	Girls	100
		Boys	100

Unfortunately, but in one sense happily, it was impossible to obtain 200 children in the malnourished groups within the time at our disposal.

The children who were examined were representative of all the districts in Bristol. They included children examined by the six medical officers previously mentioned, and none had been previously assessed by the person who carried out the clinical part of the investigation. Altogether 25 schools were visited. The survey extended over the months between May and November, with a two months break on account of holidays. There was no prevailing epidemic during this period apart from an outbreak of chicken pox limited to one school.

Three investigators were engaged in the survey :—

Dr. D. M. Stone was responsible for the examination of the blood and for measuring and weighing all the children.

Sister Bowler visited the homes, interviewed the parents and obtained the data regarding the social and economic life of the family.

Dr. Llywelyn Roberts was responsible for the clinical examination.

All balances were carefully corrected before each batch of weighings, and the same portable height measuring instrument was used throughout. The same dynamometer and stop-watch were used throughout. The blood examinations were all made by one person.

The children were all examined in the schools and when a visit was contemplated a letter was sent to the parents inviting them to attend. They were interviewed prior to the examination and the object of the survey was explained to them. The parents were very co-operative and showed an interest in the investigation. They were told at the school examination that a nurse would visit their homes to procure further information and very little objection was raised by the parents.

After the examination in school the head teacher was asked to perform a group intelligence test on the children who had been examined. Very precise printed instructions were given to the head teachers regarding the carrying out of the test. The papers were all sent to Dr. Roberts for correction and assessment of the intelligence quotient.

The school inspection was conducted as follows :—

- (1) The child was unclothed except for shorts or knickers and stockings, and the height and weight were measured.
- (2) The teacher was asked what progress the child was making in school—good, normal or poor.
- (3) The clothing, boots and general cleanliness were inspected and from the evidence we obtained we made an estimate of the maternal care—good, normal or poor.

The child was questioned as to whether he or she received milk or meals, free or paid for, in the school.

The child was inspected regarding general appearance, stance, and pallor. Measurements of the chest during inspiration and expiration were made. The teeth were examined for regularity of dentition.

The naso-pharynx was examined for enlargement of the tonsils (not necessarily for disease), the cervical glands were palpated and the presence or absence of otitis media and deafness was ascertained.

The lungs and heart were examined clinically for evidence of disease in these organs. Rickety manifestations, or more accurately, the manifestations of past rickets, were noted, and the standards of assessment are given later.

The abdominal wall was grasped between finger and thumb, and an estimate of the amount of fat covering the abdominal muscles was made.

Enquiries were made from the mother regarding the following:—

- (1) History of severe abdominal complaints.
- (2) History of chest affections—repeated colds, bronchitis and pneumonia.
- (3) History of rheumatism—chorea, growing pains, or rheumatic arthritis.

Apart from the group intelligence test, a test for the child's perception and rapidity of thinking was employed. The Porteus Maze Test (Year IX) was given to each child. This is the picture of a maze which the child has to traverse with a pencil. The time taken was noted with a stop watch and any time over 2 minutes was counted as 2 minutes.

An assessment of the child's strength, or really of the strength of his lumbar and arm muscles was made with a dynamometer. This is really a large inverted spring balance. The child was given three pulls with about 5 seconds interval between them. The average of the two highest readings was taken to represent the pull. The children and mothers showed great interest in this test. Immediately after the pull the pulse beats for the next 20 seconds were counted and this reading was multiplied by 3 and recorded as the rate per minute.

The examination of the blood.

This investigation was performed by Dr. Stone and included a count of the red blood corpuscles, an estimate of the haemoglobin, an enumeration of the white blood count and an analysis of the types present. This was done at the time of the clinical examination.

The home visit.

This was performed by Sister Bowler and the following information was received :—

- (1) The incidence of infectious diseases, measles, whooping cough, chicken-pox, scarlet fever, and diphtheria in the child under examination.
- (2) The ages of both parents.
- (3) The height and weight of the mother.
- (4) Occupation of the mother, i.e., whether she went out to work.
- (5) Health of the mother.
- (6) Unemployment in the case of the father.
- (7) Health of the father.
- (8) The number of children born into the family.
- (9) The number of children who had died in the family.
- (10) The condition of the house re dampness and cleanliness.
- (11) An estimate of the mother's housekeeping capabilities from the state of the house.

Space in house.—By the aid of the data obtained in the Overcrowding Survey an estimate was made of the amount of space available per unit. The standard used in the above survey (1 adult = 1 unit ; children 1-10 = 0·5 units ; children under 1 = 0) was adopted here.

Income.

The total income of the family from all sources was found. This included pensions, earnings of mother, father, children, money paid by lodgers, public assistance allowances, etc. It was felt that any involved investigations of the outgoings would be impracticable and so we confined ourselves to an enquiry regarding the rent. It was surprising how helpful the majority of mothers were in providing us with this information. Very few parents refused. After deducting the rent, the remainder was apportioned per man unit. This "man unit" requires some explanation :—

Children at different ages, and adult men and women vary in their energy requirements, or to put it in simpler terms, in the amount of food they require. We have used a table, prepared by the Technical Commission of the Health Committee of the League of Nations which sets out the average food requirements at all ages :—

Age (years).				Coefficient.
1— 2	...	...	...	0·35
2— 3	„	...	...	0·42
3— 5	„	...	...	0·5
5— 7	„	...	...	0·6
7— 9	„	...	...	0·7
9—11	„	...	...	0·8
11—12	„	...	...	0·9
12—15	„	...	...	1·0
15 years and upwards	...	...	...	1·0
Nursing women	...	...	...	1·25

The persons to be fed in each household were given a coefficient corresponding to their age and the total for the family was obtained by adding all the coefficients together. The total money remaining for the family after deducting rent was divided by the total of the coefficients, and in this way we obtained a theoretical sum of money which represented the money available to each "man unit" in the family.

Findings.**Numbers of Children examined in the Classes.**

Group A :	Boys	...	45	
	Girls	...	53	
			—	98
Group C and D :	Boys	...	66	
	Girls	...	34	
			—	100
Total number of Boys		...		111
" " Girls		...		87

Ages.

Average age of Boys	A	...	9.56
	C and D	...	9.36
Girls	A	...	9.52
	C and D	...	9.45
Average age of all A children		...	9.54
" " " C and D children			9.39
Average age of whole group		...	9.46

Appearance presented by the Child.

A healthy child is considered as one who appears bright, cheerful, normally vivacious, "one that gives you pleasure to look at."

Group A	...	Healthy	95	...	Unhealthy	3
Group C and D	...	"	42	...	"	57

(The note re appearance was made before examining the child).

Stance.

A poor posture is one which gives the impression of slack muscles, leading to abnormal lumbar and dorsal curves, scoliosis, or round shoulders with poorly expanding chests.

Group A

Good upright stance, 88 ; lordosis, 4 ; scoliosis, nil ; kyphosis and round shoulders, 6.

Group C and D

Good upright stance, 51 ; lordosis, 9 ; scoliosis, 1 ; kyphosis and round shoulders, 38.

The children were not told to stand upright, but were observed as they stood up to be examined.

Pallor.

Group A	18 of these children had a pale face.				
Group C and D	48	"	"	"	"

Height.

Average height in 4 classes :—

Group A	Girls	...	...	4 ft. 4.53 inches
	Boys	...	...	4 ft. 6.1 inches
Group C & D	Girls	...	...	4 ft. 1.84 inches
	Boys	...	...	4 ft. 2.59 inches

Weight.

Group A	Girls	...	...	4 st. 12.55 lbs.
	Boys	...	...	5 st. 2.51 lbs.
Group C & D	Girls	...	...	3 st. 12.59 lbs.
	Boys	...	...	3 st. 13.10 lbs.

Standard.

Average for Height and Weight at the average ages of the groups, taken from the Anthropometric Tables (Board of Education) :—

Group A	Girls	aged 9.52 yrs.	4ft. 2 ins. height	3st. 13½lbs. weight.
	Boys	aged 9.56 yrs.	4ft. 2 ins. „	4st. 2½lbs. „
Group C & D	Girls	aged 9.45 yrs.	4ft. 1½ins. „	3st. 13 lbs. „
	Boys	aged 9.36 yrs.	4ft. 1 in. „	4st. 0 lbs. „

The A children were superior to the *average* child in both height and weight.

Height (in feet) × Weight (in stones).

Group A	Girls	...	...	20.39
	Boys	...	...	23.38
Group C & D	Girls	...	...	15.945
	Boys	...	...	16.70

This figure was calculated in order to find if the product of the two measures would give any assistance in estimating malnutrition. There was a pronounced difference in the quotient in the two classes under review. When there is a marked difference in nutrition, *i.e.*, when both the height and weight are below or above the average, the product is certain to accentuate the differences. In such cases however there is no need for such a cumbersome measure as the clinical signs are sufficient upon which to base a judgment. In those cases where height or weight are near the average we do not think that the product will give any very valuable information.

Chest measurements.

MEAN CIRCUMFERENCE OF CHEST. This was measured at the nipple line and the mean between full inspiration and full expiration was taken.

Inspiration and Expiration.

Group A	Boys	... 26.92 inches	Group C & D	Boys	... 24.78 inches.
	Girls	... 25.72 „		Girls	... 23.95 „

Chest expansion.

The difference between inspiration and expiration was found in each case.

The mean expansion in the Groups was found to be as follows :—

Group A	Boys	... 2.377 inches.	Group C & D	Boys	... 2.035 inches.
	Girls	... 2.160 „		Girls	... 1.953 „

Incidence of Rickets. (This is really evidence of rickets in the past).

Evidence was sought in the chest wall, in the lower limbs, and in the skull.

CHEST WALL.—Rickets was considered to have been present if there was pigeon-chest, Harrison's sulci, asymmetry which was likely to have been due to softening of the bones, or depressed sternum.

HEAD.—Marked bossing.

LOWER LIMBS.—Knock knee, bow legs, bowing or curving of the tibia.

Group A	Girls : Chest	8	Head	1	Lower Limbs	15
	Boys : "	6	"	3	" "	7
Group C & D	Girls : "	10	"	2	" "	6
	Boys : "	25	"	16	" "	13

Counting each manifestation as a unit, it was found that :—

Group A	Girls showed	0·45	units of rickets	per child	examined.
	Boys	"	0·35	"	" " "
Group C & D	Girls	"	0·53	"	" " "
	Boys	"	0·82	"	" " "

If we count all the A children together, each child had 0·41 units per child.

" " C & D " " " " " 0·72 " " "

Among Group A one child (a boy) was found with manifestations of rickets in the head, chest and lower limbs.

Among Group C & D there were four such children (all boys).

Regularity of Teeth.

An attempt was made to obtain a dental history, but the difficulties experienced and the possibility of fallacies caused us to give up this part of the investigation. It is very difficult to define "regularity of the teeth" which we tried to estimate. If the teeth were overlapping or erupting in an abnormal way or position, we considered the teeth to be irregular.

In the group A	Girls : 49	had regular dentition	... 92·45%
	Boys : 40	" " "	... 88·8 %
In the group C & D	Girls : 22	" " "	... 64·7 %
	Boys : 52	" " "	... 78·77%

Abdominal fat.

This was estimated by grasping the abdominal wall between finger and thumb. The standard is a personal one. The findings are :—

Group A : Girls—

Good	23 (43·4%)	Normal	27 (50·9%)	Poor	3 (5·7%)
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Group A : Boys—

Good	21 (46·7%)	"	21 (46·7%)	"	3 (6·6%)
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Group C & D : Girls—

Good	7 (20·6%)	Normal	9 (26·5%)	Poor	19 (52·9%)
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Group C & D : Boys—

Good	3 (4·5%)	"	17 (25·8%)	"	46 (69·7%)
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Intelligence.

We attempted to estimate the child's capabilities in the following ways :—

1—As assessed by the teacher ;

2—As a result of a maze test ;

3—With a group intelligence test—the Simplex Junior Intelligence Test.

ASSESSED BY THE TEACHER.

Group A	Good	41	Normal	43	Poor	13
Group C & D	"	15	"	49	"	32
% of A	children	classed	as Good :	42·3%	as Poor :	13·4%
% of C & D	"	"	Good :	15·7%	as Poor :	33·3%

PORTEUS MAZE TEST.

Group A	Girls (51)	took on an average	58·1	secs. to find solution.
	Boys (42)	"	38·95	" "
Group C & D	Girls (33)	"	72·94	" "
	Boys (62)	"	48·18	" "
Taking all A children, (93), they took on an average 49·48 secs. to find the solution.				
,, C & D children, (95), they took on an average 56·73 secs. to find the solution.				

GROUP INTELLIGENCE TEST.

Group A	Girls (51)	obtained an average I.Q. of	110·98
	Boys (41)	"	109·73
Group C & D	Girls (28)	"	97·8
	Boys (58)	"	97·55
Taking an average of all A children the I.Q. was			110·42
"	"	C & D	97·63

Tests of Strength.

The dynamometer handle was adjusted to a point one-third of the height of the child's thigh. The toes were placed on either side of the attachment of the balance to the platform and the child was told not to bend the knees.

Result of Weight pulling (Spring Balance Readings) :—

Group A	Girls (54)	averaged a pull of	109·5 lbs.
	Boys (45)	"	126·4 lbs.
Group C & D	Girls (33)	"	87·5 lbs.
	Boys (65)	"	103·1 lbs.

Pulse Rate after Pull (taken for 20 secs immediately after the third pull and multiplied by 3).

Group A	Girls (51)	had an average pulse rate of	108·1 per minute
	Boys (44)	"	99·6 "
Group C & D	Girls (30)	"	104·6 "
	Boys (62)	"	100·7 "

In the following Tables are the findings for (1) Enlarged tonsils (if the tonsils had been removed it was estimated as an enlarged tonsil) ; (2) Enlarged cervical glands (if the glands were palpable they were considered to be enlarged); (3) otitis media and noticeable deafness ; (4) Signs of bronchitis and (5) presence of heart disease.

(1) Tonsils.

ENLARGEMENT OF TONSILS.

Girls A	30 cases	(56·6%)
Boys A	22 "	(48·8%)
Girls C & D	21 "	(61·7%)
Boys C & D	32 "	(48·5%)

(2) Enlargement of Cervical glands.

Girls	A	15 cases	(28·3%)
Boys	A	12 „	(26·6%)
Girls	C & D	18 „	(52·9%)
Boys	C & D	34 „	(51·5%)

(3) Ears.

Only one A child had otitis media.

Four girls (C & D) and 4 boys (C & D) had otitis media or noticeable deafness—a total of 8 children.

(4) Lungs.

Incidence of bronchitis—with signs in chest noticeable on auscultation.

Girls	A	...	...	1 case
Boys	A	...	...	no cases
Girls	C & D	...	...	2 cases
Boys	C & D	...	...	16 cases

(5) Heart disease.

One case was found among (C & D) Boys.

The abnormalities mentioned in the five previous tables might be considered to be signs of malnutrition by some people. It is quite as justifiable to consider them as causes of malnutrition.

The investigation into red cell count, white cell count, haemoglobin content, and the differential white cell count did not show any difference between the two groups of children. The figures are not yet available.

Investigation into causes which might affect nutrition.**Milk and meals in school.**

Group A	Paying for milk	...	...	69
	Free milk	...	...	4
	Total receiving milk	...		73
	Not receiving milk	...	...	23
	Receiving free meals	...	...	2
<hr/>				
Group C & D	Paying for milk	...	...	48
	Free milk	...	...	22
	Total receiving milk	...		70
	Not receiving milk	...	...	22
	Receiving free meals	...	...	10

Some children received free dinners but no milk.

It is thus seen that there was no appreciable difference between the two classes in the number of children receiving milk.

Illnesses which the child had contracted.

Enquiries were made regarding the following :—

- (1) History of severe *abdominal complaints*—severe diarrhoea, operations, etc.
- (2) History of repeated *bronchitis* (repeated colds, pneumonia).
- (3) History of *rheumatism* (all kinds).

The following are the findings :—

Group A	Girls	Abdominal diseases	3	Chest complaints	6	Rheumatism	3
	Boys	"	1	"	3	"	5
Group C & D	Girls	"	0	"	12	"	3
	Boys	"	1	"	19	"	4

The Incidence of Infectious Diseases.

Group A				Group C & D			
	% Girls attacked.	% Boys.		% Girls attacked.	% Boys		
Measles	83·1	68·8		64·7	71·2		
Whooping cough	69·9	40·0		44·1	39·4		
Chicken pox	50·9	48·8		38·5	43·9		
Scarlet Fever	11·3	15·5		2·9	6·1		
Diphtheria	3·8	6·6		5·8	4·5		

It is very interesting to note that in almost every case the children who were better nourished came off worse in respect of the incidence of infectious diseases than the children who were badly nourished. On reflection this is not surprising because many of the better nourished "A" children were only children, and received a larger amount of maternal care as will be shown later. The "C and D" children often came from crowded families, the average space available for them in the home was smaller (see investigations into housing conditions later), and so they were more exposed to subclinical attacks, and their immunity was frequently reinforced on this account.

The Mother.**AVERAGE AGES OF THE MOTHERS :—**

Group A	Girls	(52)	...	38·7 years
	Boys	(41)	...	40·0 "
Group C & D	Girls	(31)	...	40·1 "
	Boys	(61)	...	41·2 "

HEIGHT AND WEIGHT OF THE MOTHERS :—

				Height.	Weight.
Group A	Girls	(52)	...	5 ft. 3·9 ins.	9 st. 11·4 lbs.
	Boys	(41)	...	5 ft. 4·5 ins.	10 st. 1·9 lbs.
Group C & D	Girls	(29)	...	5 ft. 0·7 ins.	8 st. 11·6 lbs.
	Boys	(59)	...	5 ft. 3·1 ins.	9 st. 5·2 lbs.

It is to be noted that whereas the heights of the mothers are fairly constant in all the groups, the average weights of the mothers of the better nourished children are higher than those of the worse nourished children.

OCCUPATIONS OF THE MOTHERS :—

Group A	Among 88 mothers	8 went out to work	...	9.1%
Group C & D	" 73	" 5	" "	6.8%

Although the sample is small it does not appear that the child's nutrition suffers because the mother goes out to work.

HEALTH OF THE MOTHERS :—

Group A	Among 95 mothers	11 suffered from illhealth	11.6%
Group C & D	" 79	" 24	" " 30.4%

It is to be noted that the mothers of the badly nourished children were on the whole much less healthy than the mothers of well nourished children.

Deaths of Parents.

Group A Among 98 children the father was dead in 3 cases and the mother in 2 cases.

Group C & D Among 100 children the father was dead in 2 cases and the mother in 2 cases.

Capabilities of the Children.

During the inspection of the children in school, notice was taken of the state of cleanliness of the child and the state of its clothing, whether it was tidily kept and clean.

Group A	Good	63	Normal	34	Poor	1
Group C & D	"	32	"	60	"	6

During the home visit the nurse also noted the condition of the house and from the talk with the mother gathered an impression whether the mother was capable or not.

Group A	Of 92 mothers, 5 were considered to be poor managers—	5.4%
Group C & D	" 76 " 33 " " " "	43.4%

The Father.

The mother was questioned regarding the father's employment and health.

HEALTH OF THE FATHERS.

Group A	Of 92 fathers	15 were suffering from illhealth	16.3%
Group C & D	" 89	" 17 " " " "	19.1%

EMPLOYMENT OF THE FATHERS.

Group A

Of 91 fathers 4 only had or were suffering from unemployment 4.4 %

Group C & D

Of 85 fathers 27 had or were suffering from unemployment 31.76%

The Family.

The number of living members in the family was noted—

SIZE OF FAMILIES.

Group A	In 95 families there were 258 children born or	2.72 per family
Group C & D	" 94 " " 427 " "	4.55 per family

and the number of man units in the family was also calculated from the table previously given :—

UNITS TO BE FED.

Group A	87 families.	Average no. of units of man values per family	4.16
Group C & D	86	" " " " " "	5.02

DEATHS IN THE FAMILY :—

The number of deaths among the children in the family was obtained.

Group A In 95 families there had occurred 23 deaths among the children
= .24 per family.

Group C & D In 94 families there had occurred 37 deaths among the children
= .39 per family

This number does not include miscarriages and still births.

Housing.

CONDITION OF THE HOUSE REGARDING CLEANLINESS AND DAMPNES.

Group A Among 95 houses visited, 7 were found to be dirty and 8 were damp. This gives a percentage of 7.4% dirty and 8.4% damp.

Group C & D Among 91 houses visited, 31 were found to be dirty and 16 were damp. This gives a percentage of 34.1% dirty and 17.6% damp.

OWNERSHIP OF THE HOUSE.

Group A Of the 95 houses visited the parents were the owners in 24 cases.

Group C & D " 91 " " " " " " 5 "

AREA AVAILABLE FOR EACH MEMBER OF THE FAMILY.

Data obtained from the overcrowding survey and the standard of the survey was adopted, viz. : Adults, 1 unit ; Children 1—10, 0.5 units ; Children under 1, 0 units.

Group A 75 observations. Average surface per unit = 177.5 sq. feet.

Group C & D 73 " " " " " = 133.3 sq. feet.

Income.

INCOME PER FAMILY.

Group A 87 families. Average income was £3 14s. 2d.

Group C & D 86 " " " " " £2 18s. 10d.

RENT PAID PER HOUSE.

Group A 61 families. Average rent was 12/4½

Group C & D 77 " " " " " 11/9

AMOUNT OF MONEY AVAILABLE PER UNIT OF MAN VALUE IN THE FAMILY
AFTER DEDUCTION OF RENT.

Group A The amount for spending after paying rent averaged 15s. 9½d.

Group C & D " " " " " 10s. 7d.

Signs of Malnutrition.

There is no pathognomonic sign of malnutrition, and a well nourished child is superior to a poorly nourished child in almost every respect. A "well nourished" child is therefore a composite picture. We have tried to analyse this picture and we can say that on the whole the children who are well nourished, in comparison with the ones who are poorly nourished, are taller and heavier, look more healthy, stand better, have a more healthy

colour, have a better chest expansion, more regular teeth, are less prone to bronchitis, have suffered less from rickets and are more intelligent. The strength of A children is greater than that of C and D children. The latter children, however, as far as this investigation goes, are less prone to suffer from infectious diseases.

POSSIBLE CAUSES OF MALNUTRITION.

The health and capabilities of the mothers in the A group were found to be better than in the C and D group. Perhaps this is not to be wondered at when it is realised that the average income is smaller in the latter group, that there are more to be fed and that there is less space per head than in the better nourished class. There was a big difference in the amount of unemployment in the two groups, for whereas it was comparatively rare in the better nourished group, almost one-third of the fathers in the badly nourished group suffered as a result of unemployment. From the data we have obtained it does not seem to matter whether the mother goes out to work or not, but our figures are too small for any definite finding.

What appears to be the most important cause of malnutrition? We feel that we can unhesitatingly say that it is the economic state of the family. Where the income is low, it is difficult to provide enough food, or obtain satisfactory houses. The mother is engaged in an unequal struggle, and her health often fails under the strain, or she ceases to care.

It must be remembered that the effects of these conditions on the child may last throughout its life, and some of the traits may be passed on to the next generation.

XX.—MISCELLANEOUS.

The following report has been sent by Mr. C. K. Rossiter, Employment of Children Inspector :—

“ During the year there were 1,333 cases of infringement of the Children and Young Persons Act 1933 and Byelaws made in pursuance thereof :—

By employers	...	...	...	...	614
By parents	...	...	...	...	524
By street traders	...	...	...	...	50
Prosecutions, etc.	...	...	...	...	101
Street patrol work	...	...	...	...	44
				—	1,333

These were dealt with as follows :—

Warned	...	...	...	...	1,232
Prosecuted	...	...	...	...	12
Employment cards revoked	...	...	...	...	11
Employment cards refused	...	...	...	...	58
Street traders licences refused	...	...	...	...	18
Entertainments refused	...	...	...	...	2
Employers' cards revoked	...	...	...	...	—
				—	1,333

Registered Children.

During the year 467 children between 13 and 14 years of age were registered for employment in :—

	<i>Boys.</i>	<i>Girls.</i>	
Delivery of newspapers ...	324	—	
Delivery of milk	16	—	
Indoor domestic work ...	1	—	
Errands	53	—	
Delivery of meat	26	—	
„ bread	3	1	
„ coal	2	—	
„ groceries	41	—	
	—	—	
	466	1	
	—	—	467

Young Persons.

Young persons licensed to engage in street trading—

Selling newspapers	4	
„ flowers and vegetables	1	
Others	9	
	—	14

Entertainments.

76 children were licensed under the Children and Young Persons Act 1933, to take part in public entertainments.

No. of children licensed by Bristol Authority	—
No. of children licensed by other Authorities	56
	— 56

53 visits were made to the theatres, apartments and schools, to ascertain that the conditions and restrictions of these licences were complied with.

3,056 children were granted permission to take part in entertainments given for charitable purposes.

Halls and dressing-rooms were visited to ascertain that the general conditions under which these children were employed were satisfactory.”

Junior Instruction Centres.

The two centres have been visited periodically by two medical officers. The children, in the first instance, were reviewed to ascertain which children would accept medical examination. At this review any case considered to require milk as treatment was advised accordingly. At the succeeding visits, examination was offered to those children admitted since the previous visit ; special cases referred by the head teacher and cases marked for re-examination also being dealt with.

Fourteen visits were made by the medical officers with the following results :—

No. of examinations :	Boys	78
	Girls	81
		—
		159
		—

	Requiring treatment.	Requiring to be kept under observation.
Malnutrition	9	2
Skin and hair	1	3
Teeth	26	4
Nose and throat	3	1
External eye disease	—	3
Defective vision	11	3
Hearing	2	—
Speech	1	—
Thorax	—	1
Heart and circulation	—	5
Anaemia	4	1
Lungs	1	1
Nerves (overstrain)	—	1
Deformities	2	3
Catamenia	—	2
Other defects	3	2

Free milk has been granted in some cases but in the majority of cases the children have preferred to purchase the milk.

It has not been possible to carry out regular visits for dental inspection, owing to insufficient dental staff. Cases found to require dental treatment have been offered this at one of the dental clinics.

Remand Home cases.

At the request of the magistrates of the Juvenile Court arrangements have been made for all boys admitted to the Remand Home to be medically examined on admission. A medical report upon the lines of the "approved school" admission form is made in each case including information in regard to the boy's mental condition, the intelligence quotient being ascertained wherever the mental condition is below normal. This report is then available for the magistrates' information when the boy appears before the Court, and this procedure is carried out for all authorities sending boys to the Home.

Mental Deficiency Act.

Forty-two cases were notified under the Mental Deficiency Act to the Local Control Committee during the year, and were classified as follows :—

		<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
(1)	(i) Children incapable of receiving benefit or further benefit from instruction in a Special School :			
	(a) Idiots	1	—	1
	(b) Imbeciles	7	5	12
	(c) Others	4	2	6
	(ii) Children unable to be instructed in a Special School without detriment to the interest of other children :			
	(a) Moral defectives	—	—	—
	(b) Others	1	1	2
(2)	Feeble-minded children notified on leaving a Special School on or before attaining the age of 16	13	8	21
(3)	Feeble-minded children notified under Article 3, i.e., "special circumstances" cases	—	—	—
(4)	Children who in addition to being mentally defective were blind or deaf	—	—	—
Grand Total ...		26	16	42

The following special medical examinations were made during the year :—

Candidates for "Special Places" in Secondary Schools ...	376
Children examined under Employment of Children Act ...	419
Cases examined under the Superannuation Act on appointment to or discharge from the Corporation service ...	377
Cases examined at Remand Home	84

STATISTICAL TABLES.

ELEMENTARY SCHOOLS.

TABLE I.—MEDICAL INSPECTIONS OF CHILDREN ATTENDING
PUBLIC ELEMENTARY SCHOOLS.

A.—ROUTINE MEDICAL INSPECTIONS.

Number of Inspections in the prescribed Groups :—

Entrants	..	..	..	..	..	..	..	5,396
Second Age Group	..	..	..	..	..	..	..	5,647
Third Age Group	..	..	..	..	..	..	..	4,846
Total	..	..	..	..	..	..	..	<u>15,889</u>
Number of other Routine Inspections	..	..	..	..	..	..	..	<u>123</u>
Grand Total	..							<u>16,012</u>

B.—OTHER INSPECTIONS.

Number of Special Inspections	..	..	..	..	..	..	..	32,782
Number of Re-inspections	..	..	..	..	..	..	..	32,132
Total	..	..	..	..	..	..	..	<u>64,914</u>

C.—CHILDREN FOUND TO REQUIRE TREATMENT.

Number of *individual children* found at *Routine* Medical Inspection to require Treatment
(excluding Malnutrition, Uncleanliness and Dental Diseases) :—

Prescribed Groups—

Entrants	..	..	..	..	..	..	..	567
Second Age Group	..	..	..	..	..	..	..	626
Third Age Group	..	..	..	..	..	..	..	675
Total (Prescribed Groups)	..	..	..	..	..	..	..	<u>1,868</u>
Other Routine Inspections	.	.	..	..	..	..	..	<u>13</u>
Grand Total	..							<u>1,881</u>

TABLE II.

A. RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31ST DECEMBER, 1937.

Defect or Disease.					Routine Inspections.		Special Inspections.	
					No. of Defects.		No. of Defects.	
					Requiring treatment	Requiring to be kept under observation, but not requiring treatment	Requiring treatment	Requiring to be kept under observation, but not requiring treatment
(1)					(2)	(3)	(4)	(5)
Skin	Ringworm :—							
	1.	Scalp			—	1	35	3
	2.	Body			—	—	167	4
	3.	Scabies			5	—	158	—
	4.	Impetigo			10	2	2,394	7
	5.	Other Diseases (Non-Tuberculous) ..			21	38	1,818	92
	TOTAL (HEADS 1 TO 5) ..				36	41	4,572	106
Eye	6.	Blepharitis			10	11	288	—
	7.	Conjunctivitis			1	1	397	3
	8.	Keratitis			—	—	3	—
	9.	Corneal Opacities			—	—	21	—
	10.	Other conditions (excluding Defective Vision and Squint)			3	5	600	25
	TOTAL (HEADS 6 TO 10) ..				14	17	1,309	28
	11.	Defective Vision (excluding Squint)			737	203	1,048	58
	12.	Squint			31	19	76	4
Ear	13.	Defective Hearing			55	22	113	5
	14.	Otitis Media			46	20	681	10
	15.	Other Ear Diseases			5	3	777	24
Nose and Throat	16.	Chronic Tonsillitis only			241	300	370	92
	17.	Adenoids only			36	53	18	16
	18.	Chronic Tonsillitis and Adenoids ..			298	99	487	45
	19.	Other Conditions			68	41	1,283	345
	20.	Enlarged Cervical Glands (Non-Tuberculous) ..			12	53	400	61
	21.	Defective Speech			16	36	50	5
Heart and Circulation	Heart Disease :—							
	22.	Organic			64	60	19	7
	23.	Functional			21	51	25	10
	24.	Anaemia			32	86	224	21
Lungs	25.	Bronchitis			40	197	529	204
	26.	Other Non-Tuberculous Diseases ..			14	32	303	97
Tuber- culosis	Pulmonary :—							
	27.	Definite			2	2	1	2
	28.	Suspected			12	24	31	15
	Non-pulmonary :—							
	29.	Glands			2	4	14	1
	30.	Bones and Joints			—	—	2	—
	31.	Skin			—	—	—	—
	32.	Other Forms			2	3	16	5
	TOTAL (HEADS 29 TO 32) ..				4	7	32	6
Nervous System	33.	Epilepsy			1	3	4	5
	34.	Chorea			—	2	33	12
	35.	Other Conditions			4	44	125	18
Deformities	36.	Rickets			3	11	—	—
	37.	Spinal Curvature			32	33	4	—
	38.	Other Forms			67	83	39	10
	39.	Other Defects and Diseases (excluding Uncleanliness and Dental Diseases)			152	343	6,528	1,319
	TOTAL NUMBER OF DEFECTS ..				2,043	1,885	19,081	2,525

TABLE II (Continued).

B.—CLASSIFICATION OF THE NUTRITION OF CHILDREN INSPECTED DURING THE YEAR IN THE ROUTINE AGE GROUPS.

Age-groups.	Number of Children Inspected	A (Excellent)		B (Normal)		C (Slightly subnormal)		D (Bad)	
		No.	%	No.	%	No.	%	No.	%
Entrants ..	5,396	1,044	19·3	3,714	68·8	624	11·6	14	0·3
Second Age-group	5,647	1,177	20·9	3,615	64·0	831	14·7	24	0·4
Third Age-group	4,846	1,486	30·6	2,843	58·7	499	10·3	18	0·4
Other Routine Inspections..	123	15	12·2	102	83·0	6	4·8	—	—
TOTAL ..	16,012	3,722	23·2	10,274	64·2	1,960	12·2	56	0·4

TABLE III.

RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

BLIND CHILDREN :—

At Certified Schools for the Blind	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
17	—	—	—	17

PARTIALLY SIGHTED CHILDREN :—

At Certified Schools for the Blind	At Certified Schools for the Partially Sighted	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
—	59	4	—	—	63

DEAF CHILDREN :—

At Certified Schools for the Deaf	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
29	—	—	1	30

PARTIALLY DEAF CHILDREN :—

At Certified Schools for the Deaf	At Certified Schools for the Partially Deaf	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
—	11	2	—	—	13

TABLE III (*Continued*).

MENTALLY DEFECTIVE CHILDREN (FEEBLE-MINDED CHILDREN) :—

At Certified Schools for Mentally Defective Children	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
155	—	1	1	157

EPILEPTIC CHILDREN (CHILDREN SUFFERING FROM SEVERE EPILEPSY) :—

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
5	—	1	2	8

PHYSICALLY DEFECTIVE CHILDREN :—

(a) *Tuberculous Children.*I.—Children suffering from Pulmonary Tuberculosis
(Including pleura and intra-thoracic glands).

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
41	4	2	31	78

II.—Children suffering from Non-Pulmonary Tuberculosis.
(Includes Tuberculosis of all sites other than those shown in (I) above).

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
53	8	1	21	83

(b) *Delicate Children.*

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
159	447	15	37	658

(c) *Crippled Children.*

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
91	40	3	4	138

TABLE III (Continued).

(d) Children with Heart Disease.

At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
71	—	14	13	98

CHILDREN SUFFERING FROM MULTIPLE DEFECTS :—

Combination of Defect	At Certified Special Schools	At Public Elementary Schools	At other Institutions	At no School or Institution	Total
Mental Defect and Crippling ..	14	—	—	1	15
Epilepsy and Crippling ..	1	—	—	—	1
Epilepsy and Deafness ..	1	—	—	—	1
Epilepsy & Mental Defect ..	1	—	—	—	1

TABLE IV.—RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31ST DECEMBER, 1937.

TREATMENT TABLE

Group I.—Minor Ailments (excluding Uncleanliness, for which see Table VI.).

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
<i>Skin—</i>			
Ringworm Scalp—			
(i) X-Ray Treatment	19	—	19
(ii) Other "	15	1	16
Ringworm Body	167	—	167
Scabies	158	3	161
Impetigo	2,395	9	2,404
Other Skin Disease	1,790	49	1,839
<i>Minor Eye Defects—</i>			
(External and other, but excluding cases falling in Group II).	1,287	36	1,323
<i>Minor Ear Defects</i>	1,463	46	1,509
<i>Miscellaneous</i>			
(e.g. minor injuries, bruises, sores, chilblains, etc.)	7,153	244	7,397
Total	14,447	388	14,835

TABLE IV—(Continued).

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

	Number of Defects dealt with.		
	Under the Authority's Scheme.	Otherwise.	Total.
Errors of Refraction (including squint) ..	3,900	64	3,964
Other defect or disease of the eyes (excluding those recorded in Group I)	11	—	11
Total	3,911	64	3,975

	Under the Authority's Scheme.	Otherwise.	Total.
No. of Children for whom Spectacles were :			
(a) Prescribed	2,416	64	2,480
(b) Obtained	817	1,658	2,475

Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.													
Received Operative Treatment											Received other forms of Treatment. (4)	Total number treated. (5)	
Under the Authority's Scheme, in Clinic or Hospital. (1)				By Private Practitioner or Hospital apart from the Authority's Scheme. (2)				Total (3)					
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)			(iv)
—	—	—	—	44	13	440	20	44	13	440	20	593	1,110

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils and adenoids. (iv) Other defects of the nose and throat.

Group IV.—Orthopaedic and Postural Defects.

	Under the Authority's Scheme. (1)			Otherwise. (2)			Total number treated
	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic	Residential treatment with education	Residential treatment without education	Non-residential treatment at an orthopaedic clinic	
	(i)	(ii)	(iii)	(i)	(ii)	(iii)	
Number of Children treated	53	16	324	—	9	19	383

TABLE V.

Dental Inspection and Treatment.

(1) Number of Children inspected by the Dentist—

(a) Routine age-groups :

AGE	5	6	7	8	9	10	11	12	13	14	TOTAL
Number	957	4,753	4,439	3,671	3,735	3,538	3,460	2,864	2,934	1,686	32,037

(b) Specials 2,720

(c) TOTAL (Routine and Specials) 34,757

(2) Number found to require treatment 27,871

(3) Number actually treated 14,963

(4) Attendances made by children for treatment 32,106

(5) Half-days devoted to :	Inspection	..	..	..	252	
	*Treatment	..	..	..	2,809	
	Total	..	..	..		3,061

(6) Fillings :	Permanent Teeth	..	..	10,395	
	Temporary Teeth	..	..	563	
	Total	..	..		10,958

(7) Extractions :	Permanent Teeth	..	..	6,793	
	Temporary Teeth	..	..	26,577	
	TOTAL	..	..		33,370

(8) Administrations of general anaesthetics for extractions 11,211

(9) Other Operations :	Permanent Teeth	..	..	4,720	
	Temporary Teeth	..	..	629	
	Total	..	..		5,349

* In addition to this number, the Dentists devoted 28 sessions to the treatment of mothers and young children under the scheme of the Education Committee and the Maternity and Child Welfare Committee.

TABLE VI.

Uncleanliness and Verminous Conditions.

(1) Average number of visits per school made during the year by School Nurses ..	7.5
(2) Total number of examinations of children in the Schools by School Nurses ..	81,640
(3) Number of <i>individual</i> children found unclean	3,280
(4) Number of children cleansed under arrangements made by the Local Education Authority	—
(5) Number of cases in which legal proceedings were taken :—	
(a) Under the Education Act, 1921	—
(b) Under School Attendance Byelaws	8

TABLE I. (SECONDARY).

NUMBER OF CHILDREN INSPECTED 1ST JANUARY, 1937, TO
31ST DECEMBER, 1937.

A.—ROUTINE MEDICAL INSPECTION.

Age	10	11	12	13	14	15	16	17	18	19	20	Grand Total
Boys	68	263	206	278	174	162	80	13	2	—	—	1,246
Girls	42	99	114	99	112	87	53	9	1	—	—	616
Totals	110	362	320	377	286	249	133	22	3	—	—	1,862

B.—SPECIAL INSPECTIONS.

Re-examinations (*i.e.*, No. of children re-examined) 149

TABLE II. SUMMARY OF TREATMENT OF DEFECTS.

Defect or Disease.	Number of Children Treated.		
	Under Local Education Authority's Scheme.	Otherwise.	Total.
Skin	1	3	4
Visual Defects	179	12	191
Nose and Throat	14	2	16
Eye Disease	—	—	—
Deformities	21	1	22
Miscellaneous	14	2	16
Total	229	20	249

TABLE III. (SECONDARY).

RETURN OF DEFECTS FOUND IN THE COURSE OF MEDICAL INSPECTION.

Defect or Disease.	Routine Inspections.	
	Number referred for treatment.	Number requiring to be kept under observation, but not requiring treatment.
1	2	3
Malnutrition	15	1
Skin and Hair	6	2
Teeth	210	2
Nose and Throat	23	5
Glands	1	4
External Eye Disease	3	1
Vision	115	16
Colour Sense	—	—
Ear Disease	1	—
Hearing	3	—
Speech	5	—
Thorax	—	—
Heart and Circulation	6	7
Anaemia	4	3
Lungs	1	8
Nervous System—Headache	2	1
Overstrain	2	—
Indigestion	1	—
Constipation	—	1
Spinal Curvature	12	4
Flat Foot	9	4
Other Deformity	16	17
Other Defect	4	13
Catamenia	1	—

Number of Children		Percentage of Children found to require Treatment.
Inspected.	Found to require Treatment.	
1,862	*200	10.73

* Excluding Malnutrition, Uncleanliness and Dental Disease.

1937

REPORT
OF THE
MENTAL DEFICIENCY ACTS COMMITTEE

Council House, Bristol.

CITY AND COUNTY OF BRISTOL.

MENTAL DEFICIENCY ACTS COMMITTEE.

Council Members :

The Rt. Hon. The Lord Mayor (Alderman J. J. Milton, J.P.).
Alderman Frank Sheppard, C.B.E., M.A., J.P. (Chairman).
A. Jones, Esq. (Vice-Chairman).
Alderman W. H. Byrt, J.P.
F. J. Burgess, Esq.
R. C. Davies, Esq.
Mrs. A. A. Nunn.
W. S. Scull, Esq.
W. T. Wright, Esq.

Non-Council Members :

W. Andrews, Esq.
Mrs. A. E. M. Hampton.
Mrs. V. E. Pullin.

Josiah Green, Esq., *Town Clerk.*
E. M. Tapson, Esq., F.S.A.A., F.I.M.T.A., *City Treasurer.*
R. H. Parry, Esq., M.D., B.Sc., M.R.C.P. Lond., D.P.H.,
Medical Officer of Health.

Officers of the Colony.

John F. Lyons, Esq., L.R.C.P. & S.I., D.P.H., D.P.M.,
Medical Superintendent.
G. de M. Rudolf, Esq., M.R.C.P., M.R.C.S., D.P.H., D.F.M.,
Visiting Medical Psychologist.
John Fellows, Esq., M.C. & S.A., *Steward.*
Miss Margaret E. Hogarth, *Matron.*
Rev. A. Walmsley, *Chaplain* (Church of England).
Rev. C. Feneley, *Chaplain* (Nonconformist).
Rev. Father B. J. Ellis, *Chaplain* (Roman Catholic).

Consulting Staff.

R. R. Garden, Esq., M.A., M.B., Ch.B., D.P.H., D.O.M.S. Lond.
G. R. Scarff, Esq., M.B., Ch.B., F.R.C.S., Edin.
H. M. S. Chitty, Esq., M.B., M.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond.
J. A. Nixon, Esq., C.M.G., B.A., M.D. Camb., F.R.C.P. Lond.

MENTAL DEFICIENCY ACTS, 1913-1927.

The Mental Deficiency Regulations, 1935, require the local authority to make a report to the Board of Control for the year ended on the 31st December preceding, on the performance of their duties under the Acts : and also require the Committee to report to the local authority as to the condition of the institutions managed by them.

The following report is in respect of the year 1937.

Part I deals with Hortham Colony.

Part II deals with the domiciliary work connected with defectives carried out by the Medical Officer of Health.

Article 54 of the Regulations provides also for the submission of financial statements for the year ended the 31st March. A statement prepared by the City Treasurer shewing the expenditure of the Council in respect of mental deficiency will be found on pages 339 and 340.

F. SHEPPARD,

Chairman.

THE COUNCIL HOUSE,

BRISTOL,

May, 1938.

REPORT FOR THE YEAR 1937.

PART I.

Report of the Medical Superintendent.

HORTHAM COLONY.

*To the Chairman and Members of the
Mental Deficiency Acts Committee.*

Mr. Chairman, Ladies and Gentlemen,

I have the honour to submit my report for the year ended 31st December, 1937.

				Adults.		Children.		Total
				M.	W.	B.	G.	
Number of patients	resident	...	...	191	214	139	86	630
"	"	on licence	...	57	84	10	4	155
"	"	at Southmead						
"	"	Hospital	...	1	—	—	—	1
"	"	at Mental Hospi-						
"	"	tal	...	—	1	—	—	1
"	"	absconded	...	5	1	—	—	6
				254	300	149	90	793
Bristol cases	in residence	...	...	89	92	86	44	311
"	"	on licence, etc.	...	35	49	7	2	93
				124	141	93	46	404
Out-county cases	in residence	...	...	102	122	53	42	319
"	"	on licence, etc.	...	28	37	3	2	70
				130	159	56	44	389
<i>Movements of Patients during year.</i>								
				M.		F.		Total
Admitted	...	...	...	50		63		113
Discharged and Removed	...	...	...	13		10		23
Proceeded on licence	...	...	...	40		93		133
Returned from licence	...	...	...	21		52		73
Written off books whilst on								
licence	...	...	...	11		10		21
Deaths	...	...	...	5		5		10
Removed to Mental Hospital	...	...	...	—		1		1
<i>Classification of Patients in Residence at 31st December, 1937.</i>								
				M.		F.		Total
Idiots	...	...	...	22		15		37
Imbeciles	...	...	...	94		75		169
Feeble-minded	...	...	...	214		210		424
				330		300		630

General health.

The health of the patients has been very good. There have been no cases of diphtheria during the year and only two of Scarlet Fever. Routine testing, and immunization where necessary, have been carried out for both these conditions on all new admissions. Seven cases of phthisis have been detected and are under treatment in the Colony. Sporadic cases of dysentery of a mild clinical type, with one exception, have occurred. Fourteen patients have been transferred to Southmead Hospital for surgical treatment and two to hospitals for infectious diseases. Cases of serious injury, which included two fractures of the arm, one fracture of the clavicle and one self-inflicted injury of the throat, occurred. 54 X-ray examinations have been carried out at Southmead Hospital. Your consultant staff have continued to attend as required and have been of great assistance in maintaining the health of the patients.

Conduct.

Conduct has been satisfactory and patients are, as a whole, very contented. It is interesting to note how patients who are difficult on admission soon settle down and decide to make the best of their lot in the hope of making good. This is helped considerably by the happy atmosphere in which they find themselves and by the sympathetic attitude of the nursing staff.

Absconders.

Five male patients and one female absconded during the year, of whom two male patients and the female patient were on licence at the time, and are still untraced. Isolated absences for short periods have also occurred but these are becoming less frequent.

Licence.

During the year 133 patients were sent out on licence and 73 patients were returned, leaving 155 patients on licence at the end of the year, this number being an increase of 39 on the previous year. Failures in making good on licence have generally been due to instability and a lack of adaptability on the part of patients, but, in some instances, a lack of understanding on the part of employers has proved a contributory cause. It is hoped that as a result of the decision to increase the supervising staff further opportunities will be provided for placing patients on licence. With the demand which at present exists locally for agricultural workers, it should be possible to place more patients out on licence in this capacity. Patients who have already been placed are doing well and it is a type of employment to which they accommodate themselves quickly and well.

Nine male patients go out to work daily from the Colony. One patient is employed as assistant green keeper at the local Golf Club and the others are engaged in either farm or garden work. During the summer months additional patients have been out for the harvesting.

Occupational Training.

This important branch of the Colony provides training suitable to all grades of patients, and continues to do a large amount of

useful work. Your instructors, who have that facility for making the work interesting and intelligible to those in their charge, have succeeded in imparting a knowledge of their crafts in varying degrees of proficiency, according to the capability of those entrusted to them and in many cases this has amounted to a good all-round knowledge of the particular work. It is pleasant to observe how interested the average patient is in his work, as is evidenced by his diligence and by his willing and regular attendance.

The tailoring and boot and shoe workshops have provided for all colony requirements, and in the brush shop it has been possible to undertake work for other departments of the Corporation as well as supplying our own needs. Repairs to furniture and a large proportion of maintenance work is carried out in the joiner's shop. Patients have also been employed with the maintenance staff and have thus been able to gain useful experience.

Pig-breeding has produced 850 pigs from 98 litters. Pork and bacon supplied from this source was of good quality. A large number of store pigs were supplied to other Corporation Institutions.

An innovation was the acquisition of a small flock of breeding ewes, primarily intended for the purpose of improving some of the rougher ground. The crops of all classes of vegetables were good although owing to the dry weather the potato crop was less than that of the previous year. Practically the whole of our requirements have been met from this source.

The whole of the land is now used for the purpose of supplying the needs of the Colony.

Progress has been made in laying down rough portions of the grounds to lawns and flower-beds. Trees were planted behind the Nurses' Home and suitable plots sown for lawns to provide outdoor facilities for the nursing staff. Further progress was made with the recreation field and the new cricket pitch brought into use.

Laundry work has provided employment and training for a large number of female patients who are occupied in various capacities according to their grade. Much of the female clothing and all staff uniforms have been made in the sewing room where the work done by the patients is of a high standard. A new handicraft Instructress was appointed during the year. This department provides a variety of graded employment for lower grade patients. High grade patients employed on the stocking machines supply all our requirements for socks. Spare time work in the lodges is also arranged through this department.

Male patients are also employed in domestic duties in the lodges, and female patients in the lodges, Nurses' Home, and general kitchen where they are regularly instructed in cooking.

Details of the work carried out in the various departments during the year are as follows :—

Tailor.

Average number of patients employed : 14.

Patients' garments made	...	...	...	938
Staff uniforms made	...	...	...	318
Miscellaneous made...	...	...	...	230
Articles repaired	...	...	...	6,632

Bootmaker.

Average number of patients employed : 13.

Boots and shoes made, including surgical boots, etc.					1,039
Boots and shoes repaired					8,548

Brush Shop.

Average number of patients employed : 20.

Brushes made					7,903
Mats made					169
Mats repaired					75

Carpenter.

Average number of patients employed : 6.

Articles made					180
Articles repaired					413

Bakery.

Average number of patients employed : 4.

No. of quartern loaves					49,132
No. of fancies, buns, rolls, scones, etc. ...					50,634
Cake					8,149 lbs.

Maintenance.

Average number of patients employed : 27.

Instructional Carpenter					10
Fitters and boiler house					2
Sewage plant					3
Laundry					2
Maintenance carpenter					1
Mason					1
Painters					8

Gardens.

Average number of patients employed : 50.

Sewing Room.

Average number of patients employed : 31.

Number of articles made					12,101
Number of articles repaired					17,588

Handicrafts.

Average number of patients employed : 41.

Number of articles made					1,404
Number of articles repaired					12,524

Laundry.

Average number of patients employed : 45.

Number of articles laundered 781,904

Farm.

Average number of patients employed : 15.

Potatoes	...	...	...	...	...	1,134 cwts.
Greens	...	...	...	...	...	149 cwts.
Other crops, roots, etc.	...	...	...	...	...	267 cwts.
Pork supplied	...	...	...	...	...	3,579 lbs.
Bacon supplied	...	...	...	...	...	7,214 lbs.
Pigs sold	...	...	...	...	...	350

School.

At the end of the year there were 169 children on the school register, graded into seven classes according to capacity as follows : two classes of boys and one of girls in which the subjects are the three R's, eurythmics, country dancing, physical training and general knowledge ; one class for boys and one for girls in which the subjects are simple handwork, including rugmaking, stitching on canvas, knitting and weaving, eurythmics, singing games and percussion music. In the remaining two classes, which are mixed, and for lower grades, training is provided in sense development, hygiene, object and picture lessons, simple movements and games to music. In addition, parties of children are sent from school to the workshops on three afternoons each week for instruction.

Classes for adult patients who are unable to read or write are held on two afternoons of each week. The male patients have made good progress under this instruction.

Religious Services.

Your chaplains have continued to give their careful attention to the spiritual needs of the patients. Services for all denominations are held regularly, and parties of guides and scouts have attended services occasionally in local churches. The patients' choir, under the direction of Mr. Hayward, Jnr., has made considerable progress during the year. Although in the main singing is still in unison, harmony has been introduced and is being developed. Descants have become quite a feature.

Recreation.

The leisure hours of the patients are well catered for by the regular weekly programme which includes dances, concerts, cinema performances, whist-drives, and radio relays. In the lodges, the facilities have been improved by the provision of additional equipment including four extra billiard tables, a variety of games and another piano. The Municipal Libraries Committee have kindly furnished a further supply of suitable books for the patients' library.

A varied programme of outdoor games is available in season, i.e., hockey, football, tennis, cricket, bowls, and organised games, thus

providing a healthy and popular side of training. The football team, composed of patients and staff, is entered in the 3rd Division of the Bristol and Suburban League and plays matches regularly each week. The cricket team again had a successful season, many of the patients putting up good performances. Hockey is popular with the female patients and matches against visiting teams are keenly contested. The new bowling green which was available for play in August aroused great enthusiasm in the game amongst patients and staff.

A number of very enjoyable concerts by patients were arranged during the year. The Christmas concert, which was rather more ambitious than usual, with tap-dancing displays by a specially trained troupe of female patients as a feature, was particularly good and reflected great credit on the staff responsible for the training of the patients.

Camp.

Our camp at Brean was quite the best we have had. By reason of the extra equipment provided it was possible to give many more patients than formerly the opportunity of this change and they lived well up to your consideration by their excellent behaviour all through. A total of 280 patients were awarded the privilege of attending camp which was divided into 3 sections, namely :—

100 Adult males from 9th June to 24th June.

80 Children from 24th June to 8th July.

100 Adult females from 8th July to 21st July.

The staff present worked very hard to make the time enjoyable for those in their charge and deserve great credit for the happy spirit which prevailed throughout.

Miss I. C. Duncan and Dr. G. W. McKay, Commissioners of the Board of Control, paid a visit to the camp on 16th July, 1937.

Physical Training.

Classes for physical training are held daily for adult female patients and on three days a week for male patients. Classes for children are carried out in conjunction with school training. Exercises are made interesting by carrying them out in the form of games of a competitive nature as far as possible. Gymnastic classes for males and females are held weekly and very creditable displays have been given during the year. The beneficial effect of these exercises in toning up the slack musculature is very noticeable in the case of many patients.

Leave.

Patients have been granted leave for a period of seven days, as follows :—

Easter	...	25th March to 31st March	...	86 patients.
Whitsun		14th May to 21st May	...	48 patients.
Summer		30th July to 6th August	...	88 patients.
Christmas		23rd December to 30th Dec.	...	131 patients.

Guides and Scouts.

GUIDES.	1st Hortham Company	...	Strength : 22
			Officers : 1
	2nd Hortham Company	...	Strength : 72
			Officers : 2
SCOUTS.	207th City of Bristol 1st Hortham		
	Group	... ..	Strength : 83
			Officers : 6

1st Hortham Company Guides.

During the year 6 guides obtained the second class badge, bringing the number in possession of this badge up to 15. Eleven guides qualified for the Health badge and one for the Child Nursing badge. The whole company is now working hard to qualify for the Knitters badge.

2nd Hortham Company Guides.

This Company has had a very successful year. Twenty-one guides have now obtained the second class badge and 24 the tender-foot badge. Weekly meetings, which are made interesting by the enthusiasm of the leaders, are very popular and instructive. Other activities include weekly hikes, special outings, physical training, folk dancing, and social evenings in which the guides act as hostesses. 27 members of this company were sent out on licence during the year.

*207th City of Bristol, 1st Hortham Group Scouts.**A. and B. Troops.*

The spirit of scouting is strong and its effect on members of the Group is evident in the trust that can be placed in them. New recruits soon learn to absorb the atmosphere and the change affected in some difficult cases has shown how beneficial the training can be. Parole, which is a very special privilege for scouts, has been extended to include a larger number of patients. Calls for disciplinary action are rare and are dealt with by Courts of Honour. During the year 19 members of this Group were sent out on licence.

Church parades with colours, in which all guides and scouts take part, are held on the third Sunday of each month. Parties of guides and scouts who have attended the local churches on special occasions during the year have done great credit to those responsible for their training by their efficient bearing and behaviour.

Colony Journal.

The second and third editions of this journal have been published during the year and have been very well received. Through the assistance of your Committee it was possible to have the Christmas number printed. This number included a foreword by the Chairman.

Staff.

The health of the staff during the year has been very satisfactory, there being less absence through illness as compared with the previous year.

The 48-hour week for male nursing staff instituted on 31st October, 1937, is working satisfactorily.

During the year 15 candidates out of 26 presented were successful in passing the preliminary examination of the Royal Medico-Psychological Association and 9 out of 12 candidates presented passed the final examination and obtained the certificate in mental nursing.

Recreation, which is arranged by a Committee representative of all sections of the staff, included dances, whist-drives, and badminton and tennis matches with outside teams. Hockey, football, cricket and bowls have also been provided in season. A concert by the staff in the early months of the year was a very creditable performance and revealed excellent talent. The staff orchestra has made great progress during the year and it is a great asset in connection with the entertainments.

Miscellaneous.

The buildings have been maintained in good repair, and outside painting has been completed throughout the Colony. Interior painting and re-decoration is progressing satisfactorily. During the camping period the opportunity was taken to redecorate 21 dormitories. Two cottages were erected adjacent to the farm, the work being carried out by our own staff and patients in a workmanlike manner. Electric light and a telephone extension have been installed in the farm buildings.

The installation of a fish-frying range has rendered possible the inclusion of fried fish and potatoes for all patients on the same day, thus introducing a pleasing variation in the dietary.

The introduction of a teasing machine has enabled us to cleanse and remake the majority of the mattresses in use, the work being done efficiently at a saving in cost.

The temporary engagement of an upholsterer has rendered possible the overhaul, repair and recovering in suitable materials of many articles of furniture.

The acquisition of a motor-mower has helped to improve the condition of the lawns and playing pitches.

Air Raid Precautions.

A course of instruction consisting of fourteen lectures and demonstrations in various aspects of anti-gas work was given by Surgeon-Captain P. F. Woodruff-Minett during May and June. Facilities were afforded all members of the staff to avail themselves of the instruction.

Board of Control.

Miss I. C. Duncan and Dr. G. W. McKay, of the Board of Control, visited the Colony on the 15th and 16th July. A copy of the report on the visit has been circulated to the members of the Committee.

In conclusion, Mr. Chairman, Ladies and Gentlemen, I would like to thank you for your interest and valuable guidance in the work

of the Colony. I would also like to express my appreciation to all members of the staff for their loyal assistance which has contributed so largely to the efficient working of the Colony.

J. F. LYONS,

Medical Superintendent.

April, 1938.

PART II.

Report of the Medical Officer of Health.

*To the Chairman and Members of the
Mental Deficiency Acts Committee.*

I have the honour to submit the following report on the domiciliary work of the Committee under the Mental Deficiency Acts, 1913-1927, for the year ended the 31st December, 1937.

Administrative arrangements.

The administrative arrangements for the discharge of the Council's duties under the Mental Deficiency Acts, 1913-27, apart from the control of Hortham Colony and the collection of contributions towards patients' maintenance, remains unchanged, and is carried out by specially appointed officers under the supervision of the Medical Officer of Health.

Ascertainment.

The new cases which the Local Authority were called upon to deal with during 1937 under the Mental Deficiency Acts were :—

<i>Number.</i>		<i>Source of information.</i>
42	...	Local Education Authority.
7	...	Public Assistance Committee.
12	...	Police.
26	...	Miscellaneous.
<hr/>		
87		
<hr/>		

These cases were dealt with as follows :—

25	...	sent to institutions.
42	...	placed under supervision.
4	...	placed under guardianship.
16	...	no action taken.

In addition, on the 31st December, 1937, there were 171 defectives in attendance at Special Schools under the control of the Local Education Authority.

The number of defectives on the 31st December, 1937, ascertained by the Council to be subject to be dealt with or who might become subject to be dealt with was 1,685.

The ratio of ascertained cases per 1,000 of the population of Bristol is 4.06.

Supervision.

The supervision of mentally defective persons is carried out by specially appointed officers of the Corporation under the supervision of Mr. W. E. Price, the Supervising Officer.

At the 31st December, 1937, the number of cases under supervision was 779.

Guardianship.

During 1937, 10 cases were placed under guardianship, the number of such cases now being 76.

The number of patients granted leave of absence on licence from institutions has further increased. Some have been licensed to hostels to complete their training, others to their homes or to employers. Little difficulty is experienced in finding domestic situations for female patients; indeed, the demand often exceeds the supply of suitable cases. Practically all the employable male patients on licence are in regular employment.

During the year, 176 licences were issued in respect of institution cases and 3 in respect of guardianship cases.

56 licences were withdrawn and 2 cases were transferred to guardianship.

Discharges.

During the year 12 mental defectives were discharged from Order.

Deaths.

There were 6 deaths among the institution and guardianship cases during the year.

Occupation Centres.

The number of patients attending the Occupation Centres has somewhat decreased owing to some extent to the fact that a number of male patients have obtained employment.

The medical inspection and treatment of defectives attending the Occupation Centres is carried out through the clinics and hospitals attached to the health services of the city.

The following is a list of the Occupation Centres in operation.

<i>Occupation Centre.</i>	<i>Sessions per week.</i>	<i>Daily average attendance.</i>
PARK ROW—		
Adult male	5 day	29
Inter male	5 day	9
Juvenile mixed	5 day	20
REDFIELD—		
Adult female	4 half-day	23
BEDMINSTER—		
Adult female	3 half-day	9

Articles made at the centres are disposed of as far as possible and the sums realised placed to the credit of the Corporation. A Sale of Work was held in November at the Royal Fort Home.

The girls attending Occupation Centres were given a fortnight's holiday at Portishead, and the boys had their annual camp at Brean.

Institutional care.

The following is a list of the institutions, etc., in which patients are being maintained by the local authority :—

<i>Institution.</i>	<i>No. of Patients.</i>
Hortham Colony (Bristol cases)	404
Stapleton	117
Chasefield	21
Hermitage	2
Stoke Park Colony	8
Eagle House Hostel	4
St. Mary's Home	1
Besford Court	5
Rampton	27
Royal Fort	13
Royal Hostel	5
Old Rectory	3
Starcross	1
The Friars	1
	<hr/> 612 <hr/>

Of this total, 118 patients were absent from the institutions on licence.

R. H. PARRY, M.D.,

Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,
BRISTOL.

April, 1938.

HORTHAM COLONY WORKING ACCOUNTS, YEAR ENDED 31st MARCH, 1938.

Account. (1)	Stock at 31st March, 1937. Brought Forward (2)	Purchases. Wages and Expenses. (3)	Surplus for the Year. (4)	Totals. Columns 2—4 and 6-8. (5)	Deficit for the Year. (6)	Sales and Transfers to other Accounts. (7)	Stock at 31st March 1938. Carried Forward. (8)
Clothing Conversion—	£	£	£	£	£	£	£
Tailor	329	591	45	965	—	602	363
Sewing Room ...	309	1,384	151	1,844	—	982	862
Industries—							
Brushmaking ...	423	1,020	149	1,592	—	1,054	538
Bootmaking ...	178	1,044	72	1,294	—	886	408
Baking ...	59	1,463	125	1,647	—	1,588	59
	1,298	5,502	542	7,342	—	5,112	2,230
Farm and Garden—							
Farm	344	928	—	1,272	88	872	312
Pigs	722	1,815	365	2,902	—	1,768	1,134
	£ 1,066	2,743	365	4,174	88	2,640	1,446

Occupational Training. Farm and Garden.

Surplus for Year, per Column 4 ...	£ 542
Deficit do. do. do. 6 ...	88
Net Surplus ...	£ 542
	£ 277

Carried to Revenue Account.

GENERAL RATE FUND REVENUE ACCOUNT, YEAR ENDED 31st MARCH, 1938.

EXPENDITURE.		£	£
Maintenance of Defectives at Hortham Colony.			
Salaries, Wages, etc.	...	13,913	
Provisions ...	...	9,261	
Clothing—			
Inmates ...	...	2,285	
Staff Uniforms ...	...	335	
Drugs, Medical & Surgical Appliances	...	2,620	
Fuel, Light and Water	...	570	
Cleaning, Materials & Laundry Wages	...	3,369	
Furniture, Bedding, Linen, Hardware	...	1,274	
Structural Alterations and Repairs	...	1,516	
Upkeep of Grounds	...	1,785	
Transport of Goods, etc.	...	614	
Travelling Allowances	...	273	
Miscellaneous Expenditure—		529	
Printing, Postage, Advertising, Telephone, etc.	...	523	
Awards to Patients	...	476	
Recreation, and Miscellaneous	...	311	
Maintenance in Hospitals	...	148	
Provision of Greenhouse	...	120	
Provision of Fish-Frying Range	...	118	
Income Tax, Sch. A.	...	1,696	
Tithe Rent, Rates, Insurance, etc.	...	35	
City Treasurer's Dept. (proportion including Loans Management Expenses)	...	2,092	
Loan Charges—		193	
Interest ...	...	
Contribution to Sinking Funds	...		
Town Clerk's Department—(proportion transferred)	...	17,813	
		139	
			57,992

INCOME.		£	£
Maintenance of Defectives at Hortham Colony.			
Occupational Training Surplus	...	542	
Farm and Garden Surplus	...	277	
Deductions from Salaries and Wages under Asylum Officers' Superannuation Acts	...	819	
Charges for Laundry	...	388	
Services of Patients	...	10	
Rents	...	41	
Bank Interest	...	100	
Miscellaneous	...	572	
		85	
			2,015
Maintenance of Cases.			
Other Local Authorities for maintenance of cases at Hortham Colony	...	29,476	
Contributions under Voluntary Agreements	...	1,120	
Less Amounts Irrecoverable	...	76	
		1,044	
			30,520
Occupation Centres.			
Sales of Work	...	46	
Parents' Contributions to Fares, etc.	...	76	
			122

Maintenance of Defectives at Other Institutions, etc.

At Institutions under Orders—		
Public Assistance Committee ...	6,159	
Other Institutions ...	3,642	
	<u>9,801</u>	
By Guardianship under Orders ...	3,172	
	<u>12,973</u>	
Removal and Other Expenses ...	90	13,063
	<u> </u>	
Occupation Centres.		
Salaries, Wages, etc. ...	1,041	
Rent and Rates ...	213	
Fuel, Light, Water, Cleaning ...	99	
Provisions ...	418	
Materials ...	75	
Conveyance, Fares and Travelling ...	506	
Printing and Postage ...	12	
Summer Camp ...	41	
Miscellaneous ...	33	
	<u> </u>	2,438
Supervision and General Expenses.		
Salaries, etc. ...	975	
Travelling Expenses ...	149	
Medical Fees for Examination of Cases ...	188	
Medical Fees by Order of Visiting Justices ...	177	
Postages, Printing and Telephone ...	82	
Office Accommodation ...	220	
Grant to Central Association for Mental Welfare ...	20	
Miscellaneous ...	1	
Town Clerk's Dept. (proportion) ...	150	
City Treasurer's Dept. (do.) ...	240	
Medical Officer's Dept. (do.) ...	200	
City Valuer's Dept. (do.) ...	15	
	<u> </u>	2,417
Total Expenditure ...	<u>£75,610</u>	
Total Income ...		<u>£32,657</u>

